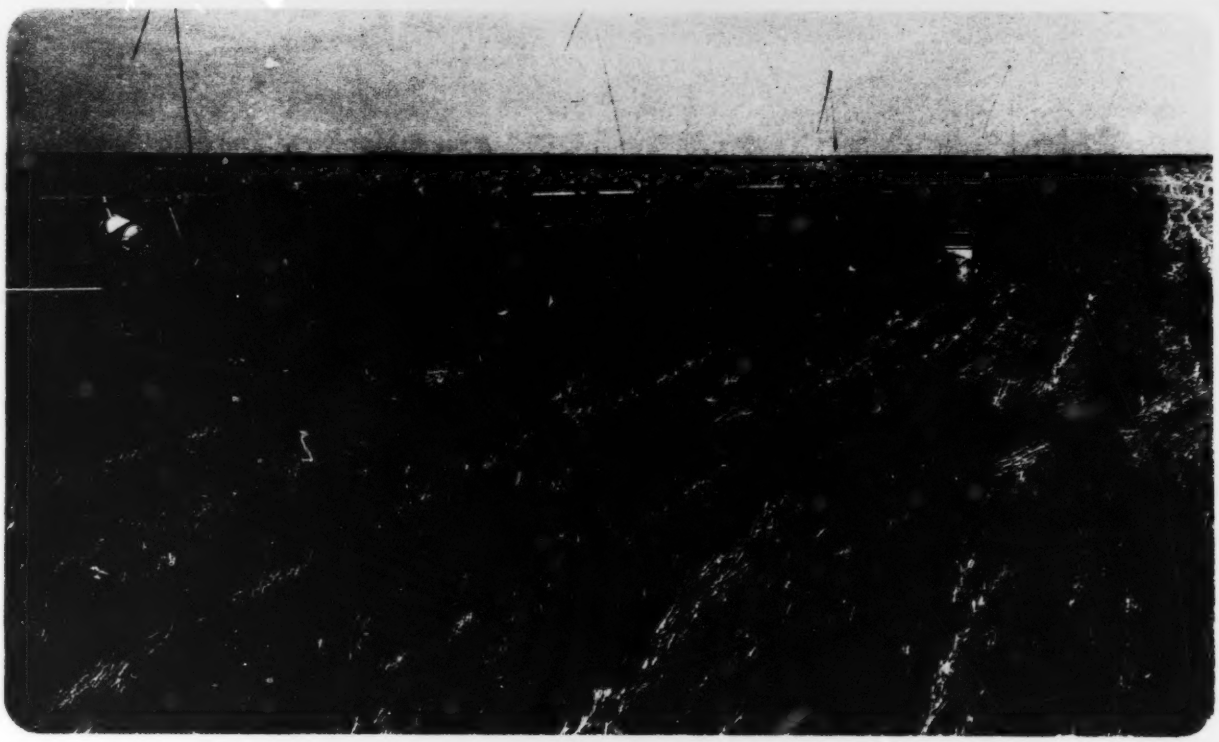
Indian Head Experimental Farm

1886·1986



Agriculture Canada

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cover photo
Cutting Regent wheat, north farm, 1939.

Indian Head Experimental Farm

1886·1986

W.E. Johnson
and
A.E. Smith

Research Branch
Agriculture Canada

Historical Series No. 23
1986

One hundred years of progress

The year 1986 is the centennial of the Research Branch, Agriculture Canada.

On 2 June 1886, *The Experimental Farm Station Act* received Royal Assent. The passage of this legislation marked the creation of the first five experimental farms located at Nappan, Nova Scotia; Ottawa, Ontario; Brandon, Manitoba; Indian Head, Saskatchewan (then called the North-West Territories); and Agassiz, British Columbia. From this beginning has grown the current system of over forty research establishments that stretch from St. John's West, Newfoundland, to Saanichton, British Columbia.

The original experimental farms were established to serve the farming community and assist the Canadian agricultural industry during its early development. Today, the Research Branch continues to search for new technology that will ensure the development and maintenance of a competitive agri-food industry.

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Preface

The Indian Head Experimental Farm has had a special place in the agricultural history of the Northwest Territories and Saskatchewan. Like the farmers, the experimental farm had to survive in a severe and variable environment. Knowledge of agricultural pests was fragmentary, and the search for plant materials endless. The farm disseminated information and distributed plant material to all of prairie Canada and beyond. The farm also distributed livestock, poultry, and eggs. Probably least known among the contributions was the effort of the Indian Head Experimental Farm, along with that of the experimental farm at Brandon, in providing exhibition material for many international and national expositions to promote prairie agriculture and attract settlers. The experimental farm gave unstinting service to the farming public and played a significant role in persuading people to settle in the new agricultural frontier.

CHAPTER 1

The Dawn of Experimental Farms

The early history of the Indian Head Experimental Farm can be fully appreciated only with a knowledge of the conditions that existed when experimental farms were established.

By the middle of the 1880s agriculture was in a severely depressed state. In eastern Canada, existing methods were rapidly becoming outdated, and no significant level of investigation had been carried out to develop new farming methods or select new crop varieties. A school of agriculture was established at Sainte-Anne de la Pocatière in 1859, and the Ontario Agricultural College was founded in 1873. However, little experimental work was being conducted at either institution.

In the West, new crop varieties and agricultural practices more suited to western conditions were desperately needed. Crop failures were common, and in Manitoba and the Northwest Territories the inclement weather during the 1880s resulted in poor crops year after year, so that many of the early settlers were forced from the land.

A significant proportion of cultivated land in the territories during the 1880s was operated by large farming concerns. At one stage, the Bell farm had holdings of over 50 000 acres (20 200 hectares), which included the land that was to be the future town site of Indian Head. Sir John Lister-Kaye held 7000 acres (2800 hectares) to the west of the Bell farm, and the Commee farm near the present town of Wolseley also covered a few thousand hectares. During the middle 1880s, both the Bell and Commee farms reported severe losses as a result of failure of their wheat crops.

It was in this setting that a select committee of the House of Commons, headed by G.A. Gigault, was appointed in 1884 to investigate the need for agricultural improvement. The Gigault committee's report to Parliament recommended the setting up of an experimental farm. During the fall of 1885, Professor William Saunders of the new university in London, Ont., was commissioned by the Minister of Agriculture, the Hon. John Carling, to investigate experimental farms in other countries, particularly those in the United States. Saunders's exhaustive report was presented to Parliament on 15 April 1886.

The bill, *An Act Respecting Experimental Farm Stations*, received Royal Assent on 2 June 1886. This act authorized the establishment of five experimental farms to fulfill Canada's agricultural needs. The Central Experimental Farm in Ottawa also acted as headquarters for the Experimental Farms Service. Dominion experimental farms were set up at Nappan, N.S., to serve the Maritime Provinces; at Brandon, Man., for Palliser's Fertile Belt; at Indian Head, N.W.T., for the Palliser Triangle; and at Agassiz, B.C., for the Pacific region. Dr. Saunders was appointed the first director of the Experimental Farms Service, a post he was to hold for 25 years.

The act stated that the main areas of investigation to be undertaken by the farms were livestock breeding and nutrition; dairying; the development of cereals and other field and orchard crops; the study of seeds, fertilizers, plant diseases, and insect pests; and the study of diseases of domestic animals.

CHAPTER 2

An Experimental Farm for the Northwest Territories

A. MacKay, superintendent, 1888–1913.

Before selecting a site for the experimental farm in the Northwest Territories, William Saunders made two visits to the region, the first in December 1886 and the second in October of the following year.

During his two western visits, Dr. Saunders was accompanied by Angus MacKay, who was to become the first superintendent of the new experimental farm in the Northwest Territories. Angus MacKay had moved to the Indian Head area in 1882 and had farmed there since that time. In May 1887, Mr. MacKay was invited by the Minister of Agriculture, the Hon. John Carling, to spend some time at the Central Experimental Farm in Ottawa, a fact that was noted with pride in the 19 May edition of the *Qu'Appelle Vidette*. During his stay in Ottawa, Mr. MacKay became fully aware of the aims and expectations of the future experimental farms.

Traveling by rail and by horse and buggy, Dr. Saunders and Mr. MacKay evaluated the area from the Manitoba border to Moose Jaw for possible sites for the future experimental farm. Locations were similarly inspected at Medicine Hat and Calgary, as well as at other important locations along the Canadian Pacific Railway. Indian reserves along the Qu'Appelle Valley and the Sarcee Reserve near Calgary were also visited.

It was believed that the future site should be located near the railway, have a good water supply, and possess a range of soil types. Consideration was also given to the possible future development of agricultural settlement in the Northwest Territories, which at that time was concentrated in the region between the Manitoba border and Moose Jaw.

The area near the town of Indian Head seemed to fill all these requirements. In 1887, Indian Head had a population of about 200 and boasted a hotel, a flour mill, and a grain elevator. Moreover, the Indian Head region was the main center in the Northwest Territories for grain production.

Finally, Section 19, Township 18, Range 12, west of the 2nd meridian was selected as the location for the new experimental farm, and 675 acres (273 hectares) were purchased from the Bell farm in December 1887 for $12.50 an acre ($31.25 per hectare). This section was adjacent to the Canadian Pacific Railway and located a mile (1.6 kilometres) from the town of Indian Head. Although the new location was only 180 miles (290 kilometres) from the Brandon Experimental Farm, Dr. Saunders concluded that the climate and soil at the two locations were different enough to warrant the establishment of a second experimental farm.

The appointment of Angus MacKay as superintendent of the Indian Head Experimental Farm was probably made after Dr. Saunders's second trip to the Northwest Territories in October 1887, when final selection of the site was made. In February 1888 the official announcement of the founding of the experimental farm was celebrated with an oyster supper at the Commercial Hotel in Indian Head. On this occasion, Angus MacKay described the work to be carried out at the new farm.

The *Regina Leader* for 14 February 1888 carried a special message from the Hon. John Carling to Lieutenant Governor Dewdney announcing that after full and careful consideration, a site near Indian Head had been selected for the experimental farm of the Northwest Territories.

There had been much rivalry between the various communities for the distinction of being chosen as the location for the new experimental farm, and there were also those who doubted that the government should become involved in agricultural research. However, the Indian Head Experimental Farm received a positive reception throughout the Northwest Territories and the farm quickly achieved prominence.

CHAPTER 3

Territorial Days, 1887 to 1905

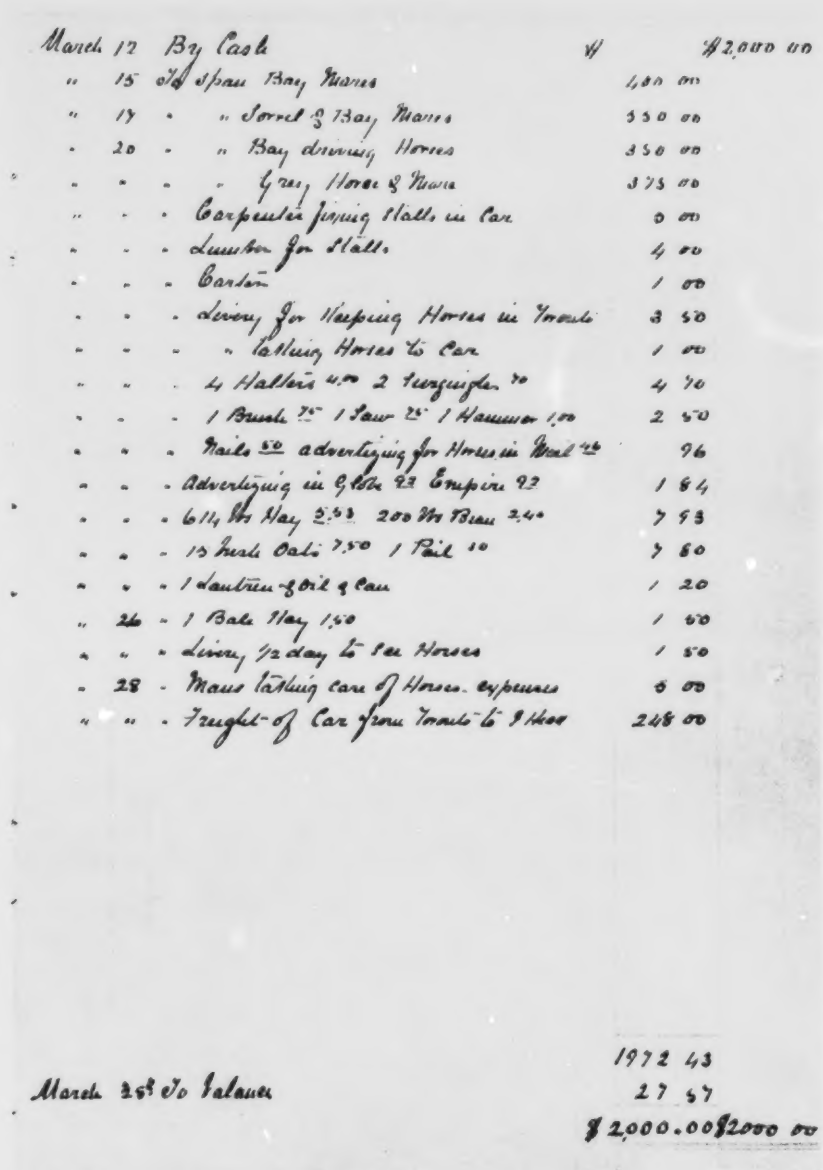
With the official announcement of the founding of the Indian Head Experimental Farm in February 1888, and the appointment of Angus MacKay as superintendent, farming operations were started as soon as possession of the site took place in April. Mr. MacKay purchased horses in Ontario and machinery in Winnipeg. Plans were made for the building of a barn, stables, and houses for the superintendent, horticulturist, and hired hands.

The spring of 1888 was late, and work on the land at the farm did not start until the end of April. Even so, the volume of work conducted that first year was impressive and was an early indication of the large number of projects to be undertaken over the next few years.

During that first year, tests were undertaken with wheat, barley, oats, peas, potatoes, mangels, and turnips. Thousands of forest and fruit trees and shrubs were bought and planted, as were soft fruit plants. During the fall, maple trees grown from seed were dug up and stored in a cellar and planted in the spring. Varieties of fall cereals, grasses, and forage plants were sown in August. Seven hundred ash-leaved maple trees, obtained from Brandon, were planted as a shelter belt in October. Angus MacKay also found time to submit exhibits at agricultural fairs held in the district. During its first year, the experimental farm had an auspicious beginning.

Early in 1889 work was continued on the various buildings and was completed by the end of that year; thus, stables, warehouses, and staff accommodation no longer had to be found in the town. Mr. MacKay's journal shows that D. Macoun moved into the foreman's house in August 1889 and expressed concern that it was not large enough for the boarding of the hired help. In 1889 more land was prepared for crops, and many more varieties of wheat, barley, oat, peas, flax, and buckwheat were compared. Grasses and fodder crops were sown, as were mangels and turnips. However, the spring of 1889 was plagued by dust storms, and the summer was exceptionally dry, so that many of the tests were severely damaged.

Over the years, studies to determine crop varieties best suited to prairie conditions were continued, and cereal breeding studies were initiated. In 1892, crossbred wheat varieties developed by William Saunders were tested, and in the same year,



March 12 By Cash ... $2,000 00
" 15 " 2 Span Bay Mares ... 400 00
" 17 " " Sorrel & Bay Mares ... 350 00
" 20 " " Bay driving Horses ... 350 00
" " " " Grey Horse & Mare ... 375 00
" " " Carpenter fitting Stalls in Car ... 0 00
" " " Lumber for Stalls ... 4 00
" " " Carlin ... 1 00
" " " Driving for keeping Horses in Transit ... 3 50
" " " " taking Horses to Car ... 1 00
" " " 4 Halters 4.00 2 Surcingles .70 ... 4 70
" " " 1 Brush .75 1 Saw .25 1 Hammer 1.00 ... 2 00
" " " Nails .50 advertising for Horses in Brandon .46 ... 96
" " " Advertising in Qu'Appelle 93 Empire 93 ... 1 84
" " " 611 lbs Hay 2.33 200 lbs Bran 2.40 ... 7 93
" " " 15 bush Oats 7.50 1 Pail .10 ... 7 60
" " " 1 Lantern & Oil & Can ... 1 20
" 26 " 1 Bale Hay 1.50 ... 1 00
" " " Driving 1/2 day & Car Horses ... 1 50
" 28 " Man taking care of Horses expenses ... 6 00
" " " Freight of Car from Toronto & 9 Horses ... 248 00

1972 43
March 28 To Balance 27 57
$2,000.00 $2000 00

Page from original ledger, account for first horses, March 1888.

A.P. Saunders was sent to Indian Head by his father to carry out further breeding experiments to produce high-quality, early maturing spring wheats. By 1901, 279 varieties of wheat, barley, oats, peas, and corn were under test, and 81 varieties of root crops were being compared.

Angus MacKay was a staunch advocate of summerfallowing operations and he noted that farmers could expect 30–40 bushels of wheat per acre on fallow fields

Superintendent's residence, 1890.

compared with 8–15 bushels per acre on stubble land. He also believed in early seeding. During those early years, studies were conducted to compare seeding rates, the effects of various fertilizers, and the benefits of summerfallow, especially when used in conjunction with crop rotations. As a result of these studies, agronomic procedures best suited to the district were developed and publicized.

As a means of reducing frost damage to cereals, smudges of burning refuse were tried but were found to be ineffective in preventing frost damage.

Smut was the most serious disease affecting cereal crops and was prevalent throughout the Northwest Territories. Blue vitriol dissolved in water was first tried at the experimental farm in 1889, and formalin was introduced in 1898. Formalin was satisfactory for barley and oats, but care was needed to prevent damage to wheat germination. Neither treatment was effective on true loose smut of barley, and hot water treatment was too inconvenient for general farm use.

Wild buckwheat, lamb's-quarters, mustard, and stinkweed were weeds that caused problems during those years. Early plowing of the summerfallow, followed by intensive tillage, was the main recommendation for weed control, although the only satisfactory way of controlling stinkweed was to pull it by hand.

The major insects reported during the 1880s and 1890s were mosquitoes, which plagued humans and livestock alike. Flea beetles became a severe pest of turnips, wireworms damaged onions, and other assorted insect pests were a problem on a variety of crops. In the early 1900s the arsenic insecticide Paris Green was tried as a means of killing the turnip fly and was used continuously for a number of years.

The Experimental Farm Station Act of 1886 gave prime place to horticulture and tree production, which became a very important part of the program at Indian Head. In March 1890 George Lang was hired as gardener, a position he held for 8 years before moving to the Forestry Branch of the Department of the Interior. As a result of Mr. Lang's efforts, within a few years, a treeless area was changed to a wooded region and a list of trees and shrubs suitable to the locale was prepared.

The use of trees as windbreaks was quickly established as a means of protecting garden crops and fruit trees from wind damage, and also gave rise to increased yields, so that by 1893 over 110 000 trees had been planted on the experimental farm at Indian Head.

Tree fruits, including standard apples, were soon found to be ill-adapted to the climate, and Russian apple trees fared no better. Crab apple trees, however, thrived.

All types of garden vegetables and herbs were tested. Asparagus and rhubarb were found to be particularly successful in the prairie soil. Potatoes received special attention, and in 1898 over 100 varieties were compared.

With the completion of the buildings in 1889, Angus, Ayrshire, Holstein, and Shorthorn cattle were introduced. From their first introduction, Shorthorn cattle were the main breed at the experimental farm and maintained their position until cattle operations were discontinued. Bulls were provided from the Central Experimental Farm, and gradually the herd increased. By 1903, only the purebred Shorthorn herd and cattle bought for feeding tests were found at Indian Head.

The first pigs, Berkshire and Yorkshire breeds, arrived at the farm in 1892, with the former better suited to prairie conditions. Tamworths were added by 1895, and a year later crossbred pigs were purchased. At the end of the territorial period, Berkshires were the main breed in the swine herd.

The arrival of the Clydesdale stallion James Arthur 1734, from Montreal in 1892, marked the beginning of the famous Indian Head Clydesdales that were a special feature of the farm for many years.

Feeding tests were undertaken with the arrival of the livestock, and trials were conducted comparing the relative merits of brome, brome straw, native hay, and wheat chaff as feed. Tests were also conducted on the suitability of frozen wheat, which had reduced commercial value, as a feed for pigs.

The first shipment of poultry was obtained from Ottawa in October 1890 and included Houdan, Light Brahma, and Plymouth Rock. Because the first two breeds were not successful, they were replaced by Black Minorca, White Leghorn, and White Wyandotte. The facilities for poultry were inadequate in those early days, and relatively poor egg production and low hatchability were common.

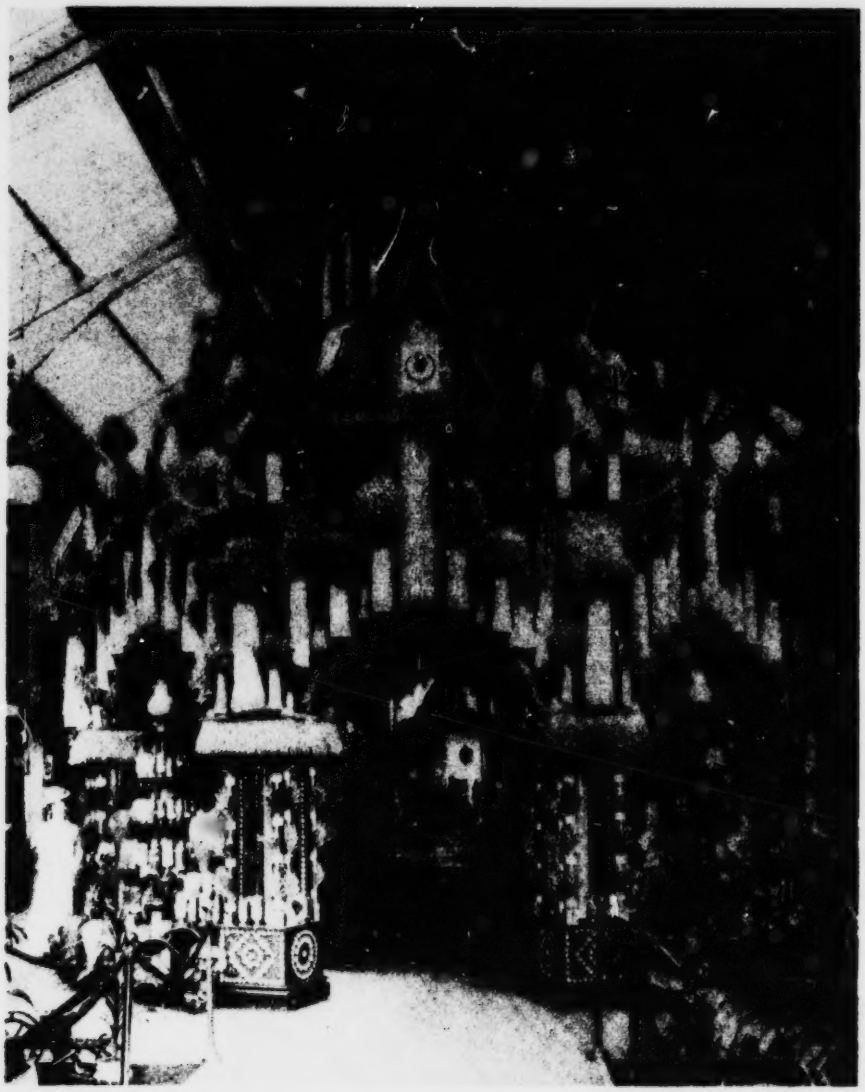
Two hives of bees were obtained in 1890, but the climate was too severe for them to survive the winter, even with careful storage.

The health of animals was a major problem, and home remedies including camphor, carbolic acid, laudanum, linseed oil, saltpeter, and strychnine were depended upon. Major animal sickness was treated by Dr. Harris, the veterinarian from Moosomin, who was almost 100 miles (160 kilometres) away. The major scourge for cattle was tuberculosis, which was also a threat to humans. The farm herd was generally free of the disease, but it was a fortunate year when cattle purchased for feeding were completely clear of it.

Finding good staff and keeping them was not easy. As noted, George Lang remained for 8 years as gardener, and afterwards J. Baylis, A. Scrimshaw, and C.C. Heaven each held the position. Records show at least five foremen during the territorial days, and there is no doubt that capable people looked upon the position as an apprenticeship. The number on staff during the summer months approached 15, but this number was reduced to seven during the winter.

The winter saw little reduction in activity. In January ice was cut and hauled; oats and bromegrass were threshed, feed was

Original barn, 1890.



Canadian agriculture trophy at the Glasgow Exhibition, 1901, with major input from the Indian Head Experimental Farm.

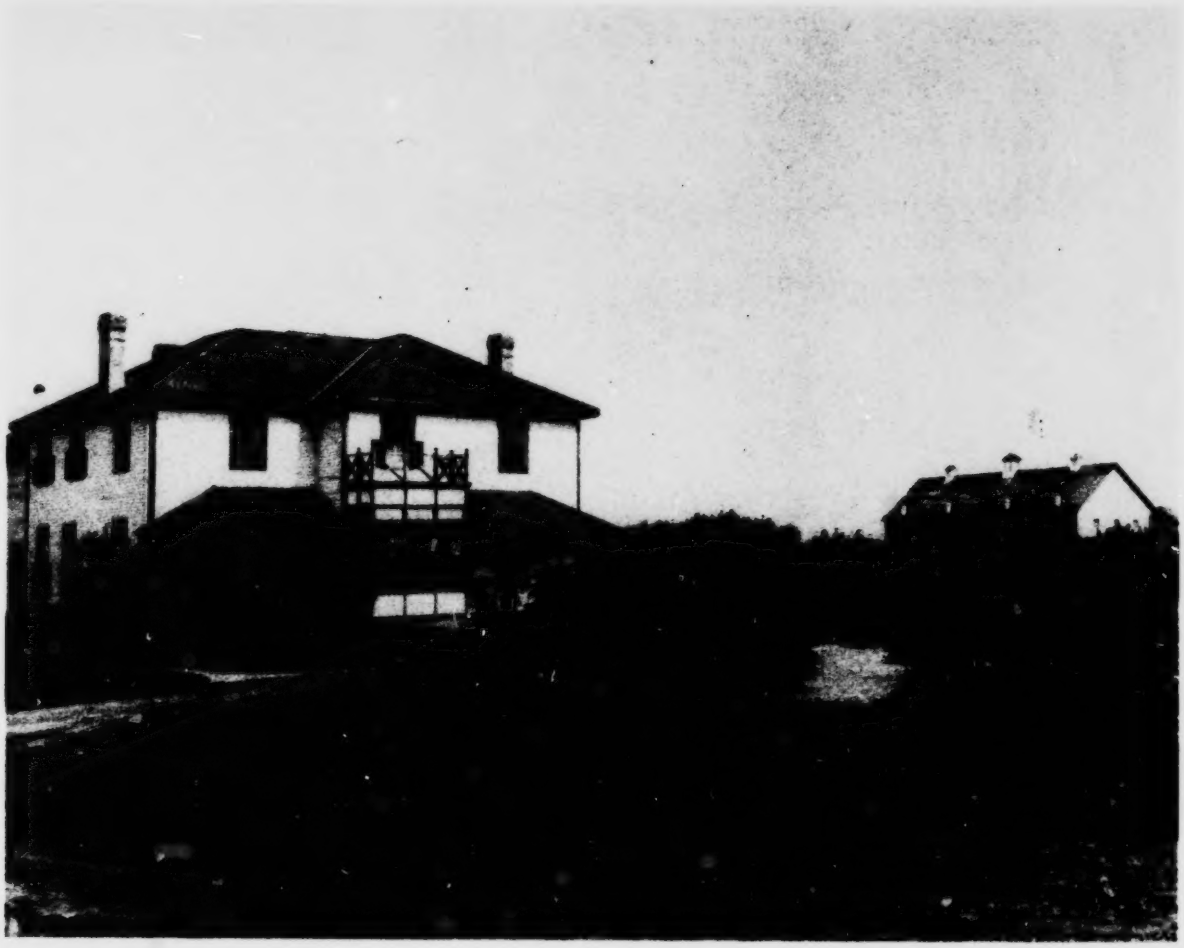
ground, and wood and coal were hauled. In addition, seed was selected for the forthcoming year and exhibition material was prepared. By March, seed samples for farm use and distribution were almost complete, and the hothouse was made ready for the planting of flower and vegetable seeds. In the spring, protective mulches were removed from fruit trees and perennial plantings. Seedling trees, heeled in during the fall, were dug up and either replanted or shipped to farmers. Roads were graded, and culverts were cleaned and repaired. With the seeding completed, the summerfallow was plowed, and the busy round of hoeing, scuffling, cultivation, and hand weeding continued through the summer. In July, haying operations were started and during that month visitors arrived. Then came the harvesting of cereals and root crops and the threshing, which often lasted until late October or November. In November livestock was stabled, and buildings and waterpipes were banked with soil or manure for winter protection.

Power and equipment presented many problems. The threshing machine was so unreliable that custom threshers frequently were used. The situation improved in 1902, when a new gasoline engine and threshing machine were purchased. However, this machinery was expected to serve the experimental farms at both Brandon and Indian Head, thus necessitating frequent transportation by rail. A windmill helped to grind grain, but on calm days a horse-operated treadmill was used. This was not a favorite occupation of the farm horses, and several refused to work on the treadmill, necessitating the hiring of horses for the job.

Extension activities included the dissemination of information, the distribution of seed and trees, and the provision of breeding stock. The promotion of agriculture at fairs and exhibitions was also a major activity. Angus MacKay was tireless in such activities and was first president and life member of the Indian Head Agricultural Society. Exhibits were prepared for local fairs as early as 1889, and in 1893 the experimental farm participated in the Columbia Exposition in Chicago. Mr. MacKay attended and was delighted when the farm was the recipient of several awards for cereals, grasses, and vegetables. The Indian Head Experimental Farm also participated in the Territorial Exhibition, Regina (1895); the Paris Exhibition (1900); the Glasgow Exhibition, Scotland (1901); the Pan-American Exposition, Buffalo, N.Y. (1901); and the World's Fair, St. Louis, Mo. (1904).

Mr. MacKay and other members of the staff acted as judges at exhibitions, and as settlement increased they traveled extensively to attend meetings of the fledgling agricultural societies and communicate the findings and recommendations of the experimental farm.

A major facet of Angus MacKay's extension activities was his correspondence, which grew apace during the territorial era. In 1894 he listed 1770 letters received and 2448 dispatched; by 1905 the respective figures had increased to 7820 and 7874. This correspondence did not include the letters and planting instructions sent to



Buildings and landscaping, 1900.

recipients of seed grain, seed potatoes, or trees. His son was later to say that the maintenance of his amazing correspondence was one of Angus MacKay's great satisfactions.

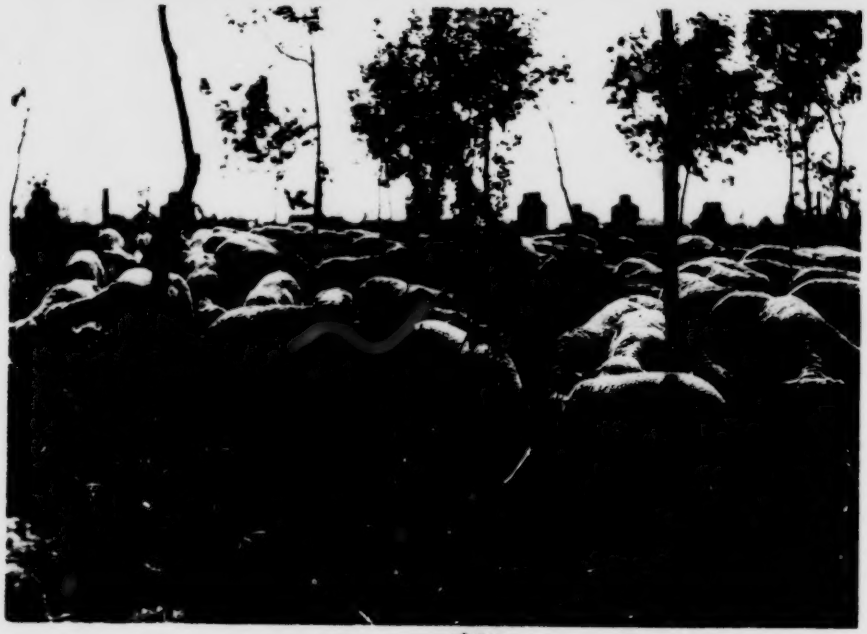
From the opening of the experimental farm, the flow of visitors was legion, with farmers and dignitaries coming from all over Canada, the United States, and the United Kingdom.

Railway excursions became a very popular part of the summer activities at the experimental farm. The first of these was from Moose Jaw in the summer of 1893; over 200 visitors visited the farm. The success of that first excursion to Indian Head resulted in additional tours being organized in future years. By the early 1900s, excursion trains were bringing visitors from as far away as Prince Albert, and teams of horses were on hand for transporting people around the farm grounds to see such events as stock judging, butter making, and cooking exhibits. Moreover, the townspeople of Indian Head participated in the organization of these gala field days and arranged sports events at the exhibition grounds.

Angus MacKay was fiercely proud of the Indian Head Experimental Farm, and his satisfaction can be summed up in a comment he made in his diary after the 1905 railway excursion: "The largest and most agreeable crowd that has ever taken possession of the farm."

CHAPTER 4

Early Years in the Province, 1906 to 1920



above
Threshing in the early days.

below
Sheep helped to control weeds among the trees.

On 4 September 1905 the settled portions of the Northwest Territories were given provincial status, and Alberta and Saskatchewan joined Confederation. The experimental farm at Indian Head was still the only one serving the new provinces, and Angus MacKay believed it would function as before.

Variety testing of cereals, peas, and other crops continued to receive attention, but perhaps the most significant development during this period was the selection of Marquis as a variety of wheat especially suited to prairie conditions. With its earlier maturity, Marquis quickly replaced other varieties and became the main seed wheat in Saskatchewan.

Summerfallow operations continued to be of major concern, and Mr. MacKay stressed the importance of fallow for moisture conservation, for allowing early seeding, and for weed control. There was a tendency for the soil to drift during the spring, and in wet years excess straw production and delayed maturity could be expected, but despite these drawbacks, evidence showed that yields of wheat,

oats, and barley were consistently higher from summerfallowed land than from stubble.

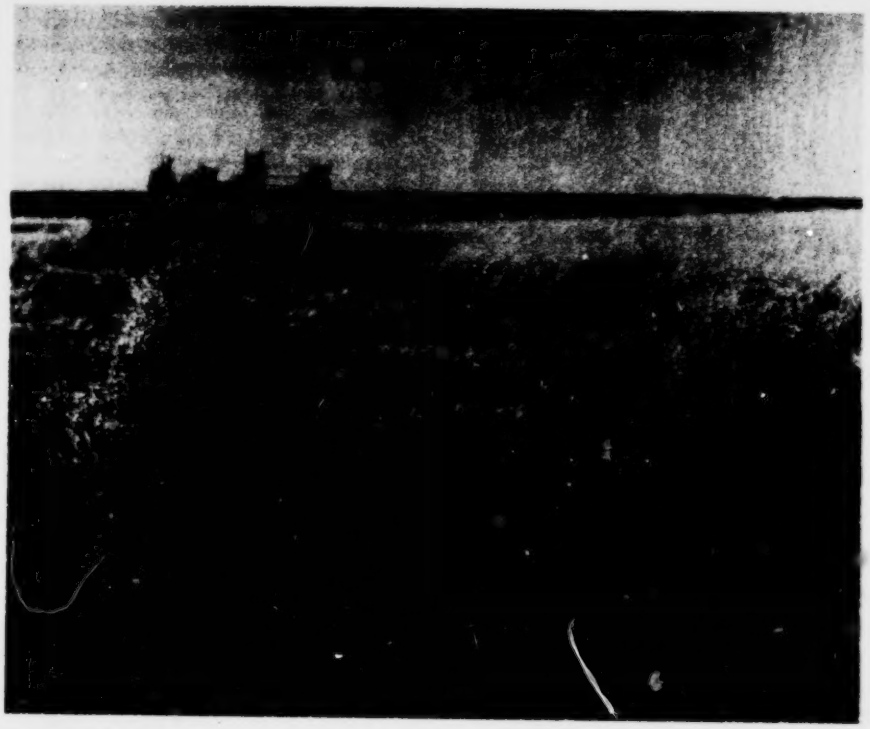
Despite continued efforts, tests with winter wheat were unsuccessful, and survival was restricted to sheltered areas; fall rye, however, proved to be a successful and useful crop.

The cultural experiments were still in progress and included work on stubble management, the use of green and barnyard manures as fertilizer, and seeding practices. In addition, new rotational schedules were started. Some of the schedules that began in 1912 are still in effect today at the Indian Head Experimental Farm.

By 1920 results from the fertilizer tests were beginning to show that some land in Saskatchewan was suffering from loss of productivity as loss of nitrogen occurred, but it was believed that the benefits resulting from the use of nitrogen and phosphorus fertilizers would not warrant the costs.

The forage investigations now included many varieties of cereals, corn, legumes, grasses, sunflowers, and succulent crops. Bromegrass and slender wheatgrass both proved to be excellent fodder crops, and alfalfa seeded with bacterial inoculum produced greater yields than those seeded without. By 1911 inoculated soil was being shipped from Indian Head to farmers in the province for use in the establishment of stands of the legume. Gradually, other forage crops were tested and included alsike and other clovers, bentgrass, fescue, ryegrass, sainfoin, and sweetclover. Work with root crops also continued.

Smut was still a problem, and tests with bluestone and formalin to control such diseases continued. Treatment methods were improved to the extent that formalin became the fungicide of choice. Weed control was accomplished mainly by summerfallow practices and cultivation procedures. Both quack grass and Canada thistle were becoming problem weeds; cultivation appeared to control the former, whereas the latter was tediously dug out by hand. The addition of the sheep flock in 1910 provided a means of controlling weeds along the avenues and in shelterbelts. However, there was a tendency for the sheep to provide unwanted vegetation control. Insect damage was prevalent throughout this period, with the arsenic compound Paris Green being the only insecticide in use.



Cutting oats, 1910.

In the area of horticulture, the development of ornamental plants, trees, and vegetables suited to the prairies was emphasized. Although, climatic conditions were adverse and pests were a constant threat, the efforts of the experimental farm were of great value to many settlers in improving the quality of life. Indeed, by 1914 the Indian Head Experimental Farm had been transformed from bare prairie to a park of hedges, drives, lawns, flowerbeds, and shelterbelts. With horticultural transformation came the pests. The Colorado potato beetle was first noted at the farm in 1910, followed by the fall cankerworm, the larch sawfly, and others. Arsenic compounds, although not completely effective, were the only insecticides commercially available, and a powered sprayer was bought for their application. In 1918 the variety testing of vegetables was discontinued, and the emphasis was shifted to vegetable seed production. However, variety testing was resumed in 1920.

Work on trees was still continued, and several hardy varieties of crab apples were introduced. However, attempts to produce hardy varieties of standard apples were still unsuccessful. An arboretum was established; 30 specimen hedges were maintained for demonstration, and caragana, honeysuckle, lilac, spirea, and hardy roses were also given prominence.

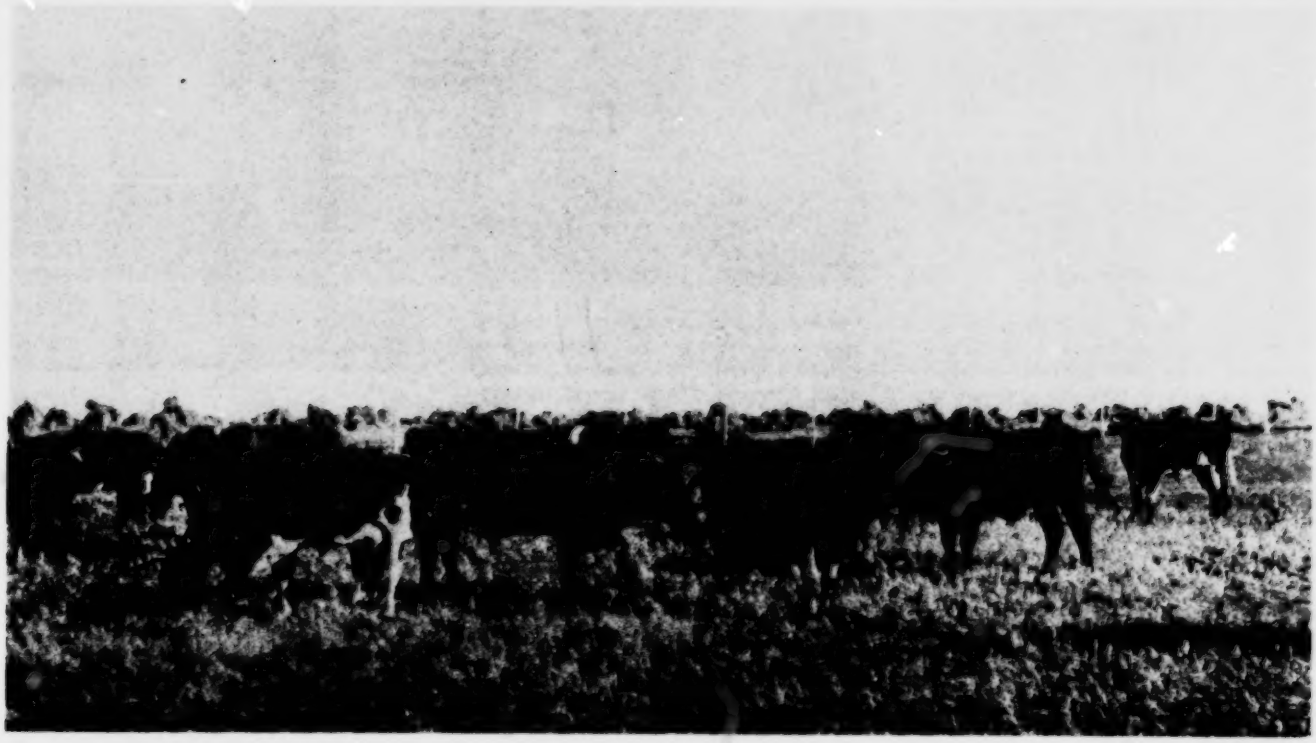
Horticultural material continued to be in great demand, and over 1000 seedling packages were available to settlers in 1914. Potato samples were distributed with questionnaires requesting management and yield details.

From 1905 to 1920 major livestock research took place, with a greater emphasis on experimentation and extension services. Horses continued to supply most of the power on the experimental farm. In 1907, of the 13 animals, two were used as drivers and for light work, and two very old horses were used mainly for scuffling row crops. After 1914 the breeding of draught horses was undertaken, and with the founding of the Horse Breeders' Association by the federal government, the successful Clydesdale program was started. In 1920 a total of 34 horses on the farm included 17 purebred Clydesdale mares and fillies and one stallion; the remainder were work horses. These Clydesdales became a major attraction at farm field days and at agricultural shows; one mare won the Canadian Bred Championship in 1919 and another was the Reserve Grand Champion.

The Shorthorn herd was improved to develop an animal that could be used either for dairy or meat production. The herd size had increased to 72 animals by 1920 and included a pedigree bull, King Edward 91030. Feeding tests were carried out to establish the actual cost of milk production when it was noted that corn silage was probably the best general feed. Tests were conducted in which frozen wheat used as cattle feed was shown to be economical.

As noted, the first sheep arrived at the experimental farm in late 1910 and added a new dimension to the operations. Lambing occurred early in the year, followed by shearing and dipping for pest and disease control. The building of a sheephouse was completed in November 1911, and 100 lambs were purchased. Gradually the flock increased in size and quality, and by 1920 it consisted of over 100 animals that were crosses between Oxford and Shropshire breeds. It was also concluded that there was little profit to be made by purchasing lambs for feeding and sale, and that reasonable profits could be realized only with lambs raised on the farm.

A new piggery was completed in 1915, and the economic advantages of feeding and housing pigs were investigated. The breeds favored were Yorkshires and Berkshires.



Cattle on pasture, 1910.

The poultry operation continued. A new poultry building was constructed in 1916 to replace the damp old building used previously. From that time, a dramatic improvement in the success of the poultry program was observed. White Wyandotte was the only breed that remained in 1920, since it had been shown to be the most profitable source of eggs. The first Saskatchewan egg-laying contest was initiated at the farm in October 1919, to test breeders' stocks and supply poulterers with information on the sources of superior strains. This egg-laying contest became very popular and continued for 19 years.

The beekeeping activities were still unsuccessful; overwintering was difficult to achieve and poor honey production was reported.

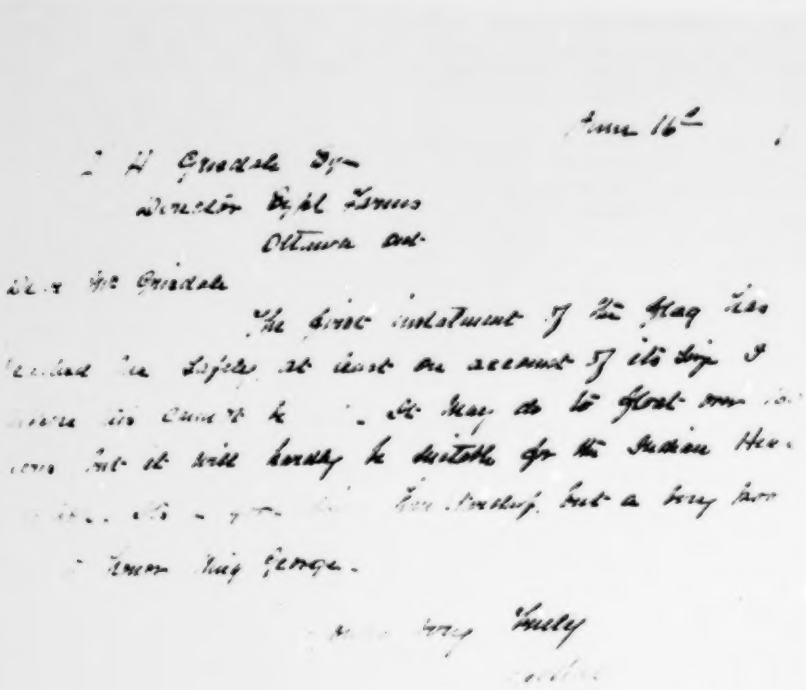
The early part of the 20th century was marked by a rapid expansion in western farming. Between 1906 and 1920 cereal production in Saskatchewan more than doubled. The extension service program undertaken by the Indian Head Experimental Farm also increased to accommodate the agricultural expansion. After 1906, the ever-popular railway excursions to the farm were supported and organized by agricultural societies and by the provincial Department of Agriculture, which also provided free lunches. The gala field days at the experimental farm attracted numerous visitors. In 1906 over 5000 attended the 2-day gathering to listen to speeches, participate in meetings, examine the various exhibits, and attend judging competitions.

With World War I imminent, an excursion was not held during 1914 nor during the war years. However, in 1920 the provincial Department of Agriculture cooperated with the experimental farm in arranging excursions by automobile and by train. Between 700 and 800 visitors attended—a modest number compared with earlier years.

The year 1906 marked the start of the seed trains. Consisting of two or three passenger coaches provided by the federal Department of Agriculture, the Canadian National Railway, and the Canadian Pacific Railway, the train visited 97 districts. Selected speakers delivered lectures on such topics as smut control, weed control, and the necessity of sowing good-quality weed-free seed. The seed trains proved immensely popular, and despite winter snowdrifts on the track and the odd derailment, they continued to function until the outbreak of World War I.

The distribution of wheat seed increased, particularly after the introduction of the variety Marquis, so that by 1908, 40 tons (36 tonnes) of seed grain and 32 tons (29 tonnes) of wheat were shipped to Ottawa for distribution to farmers. The

Gardeners' field day, 1920.



Angus MacKay's correspondence regarding adequacy of flag provided by Ottawa, June 1911.

cleaning of this grain for distribution required many days of labor.

Throughout the period, including the war years, samples of grain, root crops, vegetables, flowers, and livestock were exhibited at local fairs. The Dominion Exhibition of 1911 was held in Regina. Angus MacKay was one of the judges as well as an exhibitor. Seed fairs were also popular during this period and provided another outlet for the extension program at the experimental farm. Although there was a diminishing demand for promotional exhibits, grain sheaves were sent to exhibitions in London, England, and to San Francisco in 1911 and 1915, respectively.

Responding to farmers' questions increased Angus MacKay's correspondence. In 1912 he noted that 16 000 letters had been received and dispatched, and that most had been answered by him in longhand.

The expansion of facilities during this era was a major accomplishment. Buildings were completed for grain storage and for the housing of bees, dairy cattle, implements, pigs, and poultry. A new horse stable was built to replace the one that had burned down when an engine exploded and destroyed much grain and equipment. The pathology building was finished in 1916 and operated as a field laboratory. The severe rust epidemic of 1916 resulted in increased emphasis on the study of diseases.

Mechanization progressed steadily with the arrival of a traction engine in 1910, which, according to Angus MacKay, was always breaking down and for which spare parts could seldom be found. Milking machines and a new threshing machine to replace the one shared with Brandon were purchased.

As the number of employees increased, more time was needed to resolve routine problems that arose. With changes taking place in the experimental farm administration in Ottawa, Angus MacKay was confronted with unwelcome suggestions.

In May 1911 Mr. MacKay wrote to J.H. Grisdale, who had just succeeded Dr. Saunders as director of the Experimental Farms Service. Mr. MacKay stated that all the men on the farm, except the foreman, the gardener, and two other men, had struck for better wages. At that time, teamsters received $1.85 a day and the other staff $1.75; the staff were demanding an increase of 15 cents a day. Mr. MacKay

remarked that labor was scarce, otherwise he would fire the lot, and asked what Dr. Grisdale would advise. There is no known record of Dr. Grisdale's reply. However, in June Mr. MacKay reported that he had dismissed four of the ringleaders and increased the wages of the rest by 10 and 15 cents, but that these wages were still considerably below those being paid at the Brandon Experimental Farm. The early farms were to some degree autonomous in financial matters.

In many respects Angus MacKay was a martinet with his staff. He did, however, give full credit to good employees and considered their welfare his responsibility. In 1910 he wrote to Ottawa on behalf of George Dean, who had broken his leg while weighing horses, urging that wages and hospital bills be paid until his recovery was complete.

The early records do not indicate whether anyone was designated assistant superintendent, although W.W. Thompson held this position in 1911. Mr. Thompson was born in Carberry, Man., and was one of the first graduates of the Manitoba Agricultural College. His stay at Indian Head was brief, as was that of Robert Whiteman, another graduate from Manitoba, who was appointed assistant superintendent in early 1912. One can suspect that life for new graduates was not easy under Angus MacKay. The tenure of K. MacBean, who was born in Scotland and who had practical farming experience in eastern Canada before graduating from Macdonald College, lasted from the spring of 1913 until 1916. Major C.B. Nourse, who was born in South Africa, followed and was the only staff member referred to in the farm records by his army title. Major Nourse remained as assistant superintendent from his arrival in 1917 until his departure in 1924.

George Lang, office manager, 1927.

In March 1910 George Lang, the son of the first gardener of the same name, started work as office manager, a position he held for over 20 years. A keen ornithologist, his notes on bird migration were submitted to the United States Biological Survey. Also working in the office was Georgina Jackson, who started in 1914 and provided stenographic services for over 20 years.

Support staff continued to change rapidly, with W.V. Harcourt, T.J. Makepeace, and J. Waddell, successively hold-

W.H. Gibson, superintendent, 1915–1919 and 1924–1949.

T.J. Harrison, superintendent, 1913–1915.

ing the position of foreman between 1904 and 1916. Gardeners during this period included C.C. Heaven, E.A. Paget, F. Fell, T.H. Tweltridge, B. Goldsmith, and W. Reader. W. Pierce and later T.S. Crouch were, respectively, in charge of the poultry operations from 1914 to 1917 and 1917 to 1921.

The war years severely depleted the staff, but W. Godfrey and J. Rennie survived and returned to the farm in 1919. During those war years, German-speaking settlers from southern Russia who had settled in the area worked on the farm, pulling flax fiber, hoeing, weeding, digging trenches for sewers, and doing other manual work. Their contribution during those years was incalculable.

The years 1913 to 1919 saw four superintendents. In 1913, at the age of 73, Angus Mackay retired. A grateful government retained his services in an advisory capacity by appointing him inspector of western farms, a position he held for 18 years until his death at Indian Head on 10 June 1931, when he was in his 91st year. During his retirement he held various responsible positions, and in 1922 the University of Saskatchewan conferred upon him the degree of Doctor of Laws. He was also appointed chairman of the advisory board to the College of Agriculture.

With the retirement of Angus MacKay, T.J. Harrison was appointed superintendent during the latter part of 1913. At this time Mr. Harrison was assistant professor in the field husbandry department of the Manitoba Agricultural College, having graduated from that college 2 years previously. His stay at the Indian Head Experimental Farm was short, and in 1915 he resigned to return to the Manitoba Agricultural College, where he remained as professor until 1929, when he joined the Board of Grain Commissioners.

In March 1915 W.H. Gibson was appointed superintendent. Mr. Gibson was born in Scotland and came to Canada in 1905 overseeing a consignment of Ayrshire cattle. He graduated from Macdonald College in 1913 and then joined the Lacombe Experimental Station, which was founded in 1907, as assistant director. Mr. Gibson was director until 1919, when he resigned to take up farming. He returned in 1924 and became superintendent. N.D. MacKenzie became the next superintendent of the experimental farm appointed in April 1919. Mr. MacKenzie was born in Ontario in 1887 and graduated from the Ontario Agricultural College in 1909. After working as a district representative for the Ontario Department of Agriculture, he farmed for a couple of years before enlisting in the armed services in 1915. He returned from overseas in the summer of 1917 and was appointed assistant superintendent at the Brandon Experimental Farm prior to his appointment at Indian Head.

CHAPTER 5

The Roaring Twenties and the Dirty Thirties, 1921 to 1940

The start of the 1920s saw great changes in the Experimental Farm Service, and Indian Head did not escape the upheaval that took place. By 1920, the original experimental farms had been in existence for 34 years and were still being run in the same manner. Life had changed, and the First World War had modified the outlook and attitudes of the population.

In 1919 J.H. Grisdale was appointed deputy minister of the Department of Agriculture, and E.S. Archibald became the director of the Experimental Farms Service, a position he held for the next 30 years. During the early 1920s, the Department of Agriculture, particularly the Experimental Farms Service, was receiving harsh criticism, and Dr. Archibald felt that never before had members of Parliament shown such a lack of appreciation for the actual and potential value of the experimental farms.

In 1924 a cut of $125 000 in the estimates for the year spurred Dr. Archibald to recommend a thorough review of work in progress at all experimental farms in preparation for a period of austerity. Despite these adverse conditions, under Dr. Archibald's direction, new experimental stations (the name experimental farm was used only for the original five establishments) were founded whenever and wherever they could be justified. Then, instead of large experimental stations dealing with all aspects of agriculture, smaller stations investigating specific problems to better serve local agriculture were established. In Saskatchewan, the first of these new stations was opened at Swift Current in 1920, where the main function was to develop cultural methods and cropping systems suited to the dry areas of southern Saskatchewan and Alberta. These programs counteracted the problems of soil drifting, conserved moisture, and controlled weeds.

The impact of these new ideas on the experimental farm at Indian Head was dramatic. In January of 1924 Dr. Archibald wrote to the superintendent, Mr. MacKenzie, requesting the annual reports for 1921, 1922, and 1923. When these were not forthcoming, Mr. MacKenzie was forbidden to attend engagements off the farm until the reports were completed. Dr. Archibald also complained about the competence of the assistant superintendent, Major Nourse, and the stenographer, Miss Jackson. Mr. MacKenzie objected strenuously to the criticisms, but in July 1924 he wired his resignation to Ottawa. In all fairness, Mr. MacKenzie had a great deal to do and was not alone in neglecting the annual reports, which were a nuisance to most superintendents. He had also been given the administrative responsibility for organizing the experimental station at Swift Current until J.G. Taggart was appointed superintendent in late 1921. However, the farm journals do indicate that Mr. MacKenzie was not fulfilling his farm obligations and was showing considerably more interest in extension and public relation activities. It is also likely that after the strict rule of Angus MacKay, followed by the appointment of three superintendents over a 6-year period, the farm was not as well organized as before.

In August 1924 W.H. Gibson, who at the time was in charge of an Alberta government farm at Oliver, was appointed superintendent for a second time. Dr. Archibald notified Mr. Gibson that the farm was in a sad condition and provided specific requests for significant changes. He stipulated that improvements be made on cereal studies, that the livestock regain a superior position, that reliable data be made available to the public to regain their interest in the experimental farm, and that money not be wasted on nonessential items. Dr. Archibald believed that the rail excursions had outlived their usefulness and considered them to be little more than a holiday and an opportunity for visiting friends, with a free lunch provided at the government's expense. Mr. Gibson must have acted quickly upon Dr. Archibald's orders, because by December of the same year Dr. Archibald appeared satisfied with the progress made. Despite pleas by Mr. Gibson, Major Nourse was asked to resign, and in February 1925 he left the farm. Miss Jackson remained until 1927.

During the 1920s variety and crop testing expanded, and with the appointment of Doug Matthews in 1923, 39 spring wheat, 14 barley, and 19 oat varieties were tested. Although Red Fife was still retained in the spring wheat tests, a number of strains of Marquis, Garnet, and Reward were tested. Later tests were carried out with Ceres and Red Bobs, the latter having been developed at the University of Alberta. These variety tests were designed to select wheat that was early maturing, that survived under prairie conditions to produce satisfactory yields, and that was rust resistant. Over a 5-year period during the 1930s, Ceres, Reliance, and Reward all outyielded Marquis wheat. This development spelled the end for Marquis, which had first been tested in 1907 and which in turn had proved superior to Red Fife.

During the late 1930s several rust epidemics occurred, but by 1940, four varieties of wheat that were early maturing and possessed rust resistance were available to farmers. Thus, in the southeastern area of Saskatchewan, where rust was particularly prevalent, the experimental farm provided Apex, Regent, Renown, and Thatcher to local farmers.

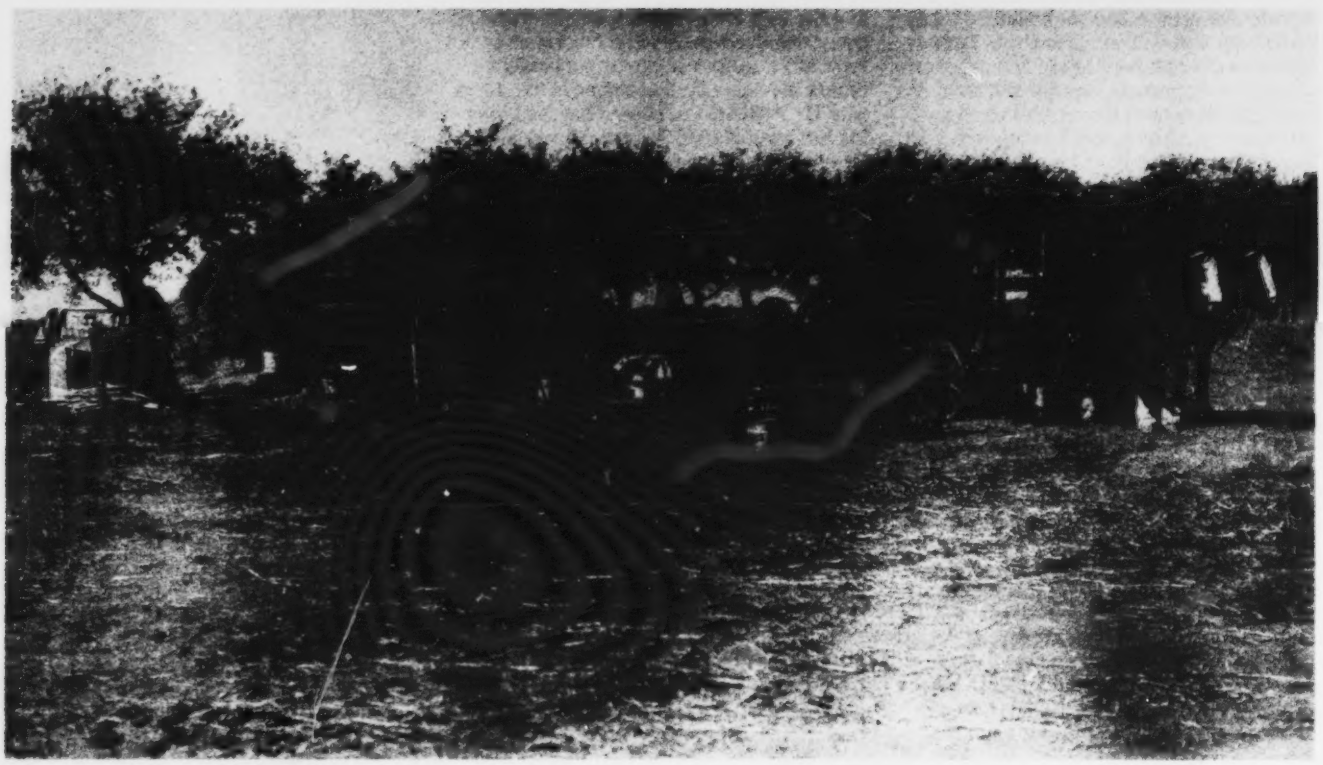
The oat varieties Banner, Gopher, and Victory were prominent during this period. Eagle and Vanguard were tested later, with the latter out-yielding Banner and Gopher oats and resisting stem rust and smut. Barley was not a major crop in the province but became more popular at this time as mechanization reduced the amount of oats required as feed for horses. Tests were conducted at Indian Head with the varieties Newall, O.A.C., Olli, Plush, and Rex.

above

First combine, 1927.

below

Plot threshing, 1923.



By the late 1930s an interest in disease-resistant flax developed, and in 1940 the wilt-resistant varieties Bison, Redwing, and Royal were under test. Work with field peas and beans was also continued.

During the 1920s and 1930s increased testing of forage crops and grasses useful to prairie agriculture took place. The work with grasses became especially important during the 1930s, when such grasses were vital in holding the soil and preventing soil drifting during periods of drought and wind erosion.

Alfalfa had proved its value in the early days, and by the 1930s four varieties—Cossack, Grimm, Ladak, and Ontario Variegated—were proving to be hardy and drought resistant. Corn was an important silage crop and received much interest. Fall rye continued to receive some attention, despite its not being extensively grown. Root crops were tested throughout the period, though work with carrots was discontinued in 1930.

In 1922 plowless summerfallow was introduced and it was shown that the plowing operation associated with the technique was unnecessary. The summerfallow work continued, but unlike Angus MacKay, W.H. Gibson felt that such procedures were a luxury.

As was noted earlier, soil samples from the farm continued to show a reduction in organic matter and nitrogen, but it was still believed that commercial fertilizer, because of the cost, would not play a prominent part in prairie agriculture. Barnyard manure applied to corn and wheat resulted in increased yields.

An important project was started in 1932 on the prevention of soil drifting. This involved the use of a 2-year fallow–wheat program, with weed control and tillage operations carried out with cultivators and harrows so that the soil was not unnecessarily disturbed.

above
Hay was cured in cocks for many years.

below
Basin listing to control field run off, 1938.

above
Glastullick Clansman, Shorthorn herd sire, 1939.

above right
A famous visitor, Lord Tweedsmuir, Governor General (with cane), 1938.

Although horticultural work at the experimental farm was beset by disease, insects, and weather, progress was made. In 1925 the crop of crab apples was the heaviest ever reported, and five seedling trees of crossbred standard apples fruited and appeared to be satisfactory for propagation. However, they succumbed to winter kill 3 years later. Two varieties of apples that did survive were Reward and Renown, and in 1940 it was noted that Renown was the favorite of the boys from Indian Head who regularly raided the orchard. A new arboretum was established in 1928, and 200 species were planted. By 1940 caragana, honeysuckle, lilac, spirea, and rose were listed as the most popular prairie ornamental shrubs. On the farm, birch, Manitoba maple, and poplar all suffered severely in the drought years, but ash and elm were more resistant. White spruce and Scots pine also did well, but Norway spruce trees were damaged under drought conditions.

Drought was a major problem in the production of vegetables and small fruits during much of this period, and experiments were conducted on the use of mulches as a means of conserving moisture and for controlling weeds. In 1930 a paper mulch was tested on corn, cucumber, and turnips, resulting in good yield increases.

Insects and their larvae continued to create havoc and included aphids, cabbage worms, cutworms, flea beetles, larch sawfly, onion maggot, potato beetles, tent caterpillars, and a host of other pests. As control measures, nicotine sulfate was used against sucking insects and arsenic compounds against biting insects.

In 1926 the horse population in Saskatchewan peaked at over 1 million, there being only 26 000 tractors in the province. Because of the poor economic conditions during the 1930s resulting from the worldwide depression and the droughts on the prairies, the number of tractors in use declined. Mr. Gibson noted in 1930 that although mechanization had interfered with the horse-breeding operations at the experimental farm, the low cost of feed and the desire for cost efficiency might lead farmers back to the use of horsepower for work on the farm. Consequently, the 1930s marked the heyday of the Indian Head Clydesdales.

Animal health was still rudimentary, and the vaccination of mares and foals for navel ill was discontinued in 1926; a small amount of potassium iodide being given in its place twice a month. This additive seemed to be successful in raising healthy foals.

Shorthorns were still the only cattle breed on the farm in the early 1920s, and efforts were still concentrated on producing a dual milk–beef animal. In 1925 an Ayrshire herd was started on the farm, and Ayrshires rapidly proved themselves to be superior to Shorthorns as milk producers. The Shorthorn herd was transferred to the experimental station at Lacombe in 1932, and the Ayrshires remained at Indian Head as the sole breed until 1938, when there was a revived interest in Shorthorns.

The swine herd was retained, and by 1925 consisted entirely of Yorkshires. A Yorkshire breeding club was formed in the province in 1927, and stock boars were kept on the farm for the use of breeders. From 1937 to 1940 the experimental farm sold 39 boars, 23 sows, 19 gilts, and 400 unregistered hogs to farmers. Boars on the

farm serviced 300 sows during the same period.

Interest in sheep seemed to decline, and by 1925 only purebred Shropshires remained. In 1930 the breeding flock numbered around 40 animals, and some time in the early 1930s the sheep operation was discontinued.

The poultry flock was retained, with White Wyandotte being the choice breed until 1929, when Light Sussex chicks were purchased. By 1931 Barred Plymouth Rock was the sole breed.

Feeding costs were constantly monitored, and with the shortage of pasture during the dry 1930s, greater emphasis was placed on the development of supplementary feeds, especially those containing readily available straw. Feeding tests were conducted with cattle, hogs, and sheep to determine more effective and cheaper diets. Cod-liver oil was deemed to be a valuable addition to poultry feed. Another feeding test carried out by the experimental farm was the testing of highly promoted products of questionable value. Thus, during the early 1930s a mineral supplement being sold to dairy farmers was shown to be ineffective—in fact, the cows gained more weight in the absence of the supplement.

Visitors came to the farm continually, and the Governors General the Duke of Devonshire, Viscount Willingdon, and Lord Tweedsmuir all toured the experimental farm during their tenure. A tour group from the second congress of the International Society of Soil Science visited in 1927.

Correspondence continued to be influential in the field of extension, and the huge files at the experimental farm bear testimony to the number of requests for information, bulletins, and assistance from the farming community. However, communication methods changed in the twenties and instead of the railway excursions, so popular in the previous decade, radio talks were given on radio station CKCK. Short courses on a variety of topics were also organized.

Agricultural groups such as the Livestock Breeder Association, agricultural societies, seed growers, and members of the wheat pool still met frequently at the experimental farm. Moreover, a field day was held most years. Because of its wooded setting, the experimental farm became a popular place for picnics sponsored by chambers of commerce, Kiwanis clubs, the Salvation Army, and Sunday school groups.

As before, exhibits were regularly prepared for local and regional fairs. The Clydesdales were usually shown at all the major fairs and won many prizes. In 1927 Lady Price won the grand championship in Chicago, with prizes also being awarded to His Majesty and Dunure Norman.

Not all the prize-winning animals were horses, for the Ayrshire cow Tullochgorum Dorothy was senior female champion at the Regina summer fair in 1930. The Sas-

Winning pen of White Wyandotte, Saskatchewan egg-laying contest, 1922–1923.

katchewan egg-laying contest was still held at the farm, with birds coming from Alberta, British Columbia, and Saskatchewan. The contest was finally discontinued in 1938.

Despite the problems of the early 1920s, some building was carried out. In 1924, a piggery, a second poultry house, a concrete root cellar, a greenhouse, and two portable granaries were constructed, and work was started a year later on a new agronomy building. A new dairy building was constructed in 1926, and a new greenhouse and seed-cleaning plant in 1929. Unfortunately, fire destroyed the piggery in 1936, but a new one was built the following year. Mechanization, however, progressed slowly during the twenties.

New staff came and went. As noted, Doug Matthews was appointed assistant superintendont in charge of cereals in 1923. After serving with the armed services, he graduated from Macdonald College in 1921 and remained at Indian Head until 1928, when his brother, the superintendent at the Scott Experimental Station, died suddenly. Doug Matthews was appointed the new superintendent. Mr. Matthews's replacement at Indian Head was J.G. Davidson, who arrived in 1928 and became superintendent in 1949.

Clydesdale field day, 1937.

Another arrival during this period was Bill Cram, who had worked as a summer student at the Indian Head Experimental Farm. After graduating from the University of Alberta in 1929, he was employed at the farm as assistant to the superintendent for livestock and poultry. Mr. Cram spent his entire career at the experimental farm and was the only professionally trained employee in the livestock operation.

John Walker was hired in 1924 as assistant to the superintendent for horticulture. Originally from Scotland, Mr. Walker had degrees from the universities of Alberta and Minnesota. He remained at the experimental farm until 1929, when he resigned to take up a position with the Manitoba Department of Agriculture. In later years he returned to the town of Indian Head as superintendent of the Forest Nursery Station. Mr. Walker's replacement was B.H. Wilson, whose short career at the farm lasted a single year and who in turn was replaced by R.M. Wilson. Bob Wilson was from Manitoba and a graduate of the University of Manitoba; he remained at the experimental farm until 1945, when he resigned to return to farming.

Other employees at the farm during this period were Lucy Fleming, who became the stenographer in 1929 and remained until her marriage to George Hodgson, who was appointed poultryman in 1935. Mr. Hodgson remained 2 years before leaving to attend Cornell University. He later became professor of poultry husbandry at the University of Manitoba.

Jack Quinn came to the farm in 1926 and began his long service that stretched into the 1950s. Betty Gray started in 1933 and stayed for several years; John Horn and Sam Shaw were long-serving foreman and herdsman, respectively; Tom Linton was gardener until 1932; Stan Law came in 1931 and remained as a gardener until 1950. The boarding house had a number of managers. Mrs. Foskett operated it until 1927, when the Ledinghams ran it for a while, before Mrs. Wing took over management. On the death of Mr. Wing, as a result of a farm accident in 1933, the boarding house was run by Mrs. Law.

In 1935, the administration of the Regina substation, which had been established in 1931 to conduct experiments on soil drifting, weed control, and crop rotations, was transferred from the Swift Current Experimental Station to the Indian Head Experimental Farm.

CHAPTER 6

The Prairie Farm Rehabilitation Administration, 1935 to 1940

During the early 1930s agricultural conditions on the prairies had deteriorated as a result of soil drifting and drought, and federal action was needed to provide both the necessary money and research to counteract the terrible conditions. The *Prairie Farm Rehabilitation Administration (PFRA) Act* of 1935 was enacted to "...provide for the improvement of agricultural conditions in those parts of the Prairie Provinces which in recent years have suffered from drought and soil drifting...." This act, initially under the direction of the Minister of Agriculture and later under a separate administration, was designed to alleviate prairie agricultural problems by improving cultural practices, conserving water, and controlling land use. Much of the early work for the program was undertaken by the experimental farms and stations in the Prairie Provinces. The Soil Research Laboratory, located at the Swift Current Experimental Station, was opened in June 1936, as a direct result of the 1935 *PFRA Act*, to conduct research on soil fertility, moisture conservation, and wind erosion control.

The administration of the PFRA program, carried out by the Indian Head Experimental Farm, was one of W.H. Gibson's most notable achievements. In this he was supported by an able and dedicated staff about whom more is said later.

The staff at the experimental farm conducted reclamation projects, the first in Rural Municipality No. 64, near Kisbey. The sandy soil in this locality had been subject to severe drifting for several years, and in 1936 attempts were initiated to reduce the problem. Local farmers were asked to break the soil surface with duckfoot cultivators and to seed immediately with fall rye or oats. The cultivation was carried out against the prevailing winds to reduce wind erosion. Some of the rye suffered winter kill, so that in the spring not enough plants survived to hold the soil and prevent drifting during the early months of 1937, when strong winds occurred. It was observed that Russian thistle and other weeds helped to check soil drifting.

The second project was carried out on land in Rural Municipality No. 222, 19 km southwest of Aylesbury. In this region the sandy soil, which had been drifting for

Caterpillar tractor on PFRA reclamation project in Estavan area, 1937.

Travel was difficult at times for PFRA equipment, 1938.

many years, was seeded with fall rye and barley in 1936. Although the barley did poorly, a satisfactory crop of fall rye was harvested in July 1937 and provided a high stubble suitable for the protection of seeded grass.

Late in 1937 in the Estevan area, an attempt to control soil drifting was made using cultural methods only. Strips were ridged using listers and were alternated with areas seeded with fall rye. Drifting was thus successfully controlled.

By the end of 1938 considerable success was achieved in the control of soil drifting, with fall rye the major crop in the reclamation projects. Crested wheatgrass proved to be a drought-resistant grass and was excellent for controlling soil erosion by preventing soil loss. Sweetclover, bromegrass, and alfalfa were also satisfactory, if moisture and temperature conditions were favorable. When all else failed, Russian thistle was a decided asset in preventing erosion.

From 1935 to 1940 reclamation work was conducted on 4388 acres (1776 hectares) at 50 locations. The problems of soil drifting were being controlled, and land was being reclaimed for agricultural purposes.

Regrassing of community pastures was undertaken in 1938, with the seeding carried out without prior cultivation using a Caterpillar tractor and a double-disc seeder. By 1940, 10 165 acres (4114 hectares) of community pasture had been seeded with varying success. Some of the failures were due to infestations of grasshoppers, which were severe during the 1930s, or to the presence of prairie sage, which was a deterrent to good grass establishment.

In 1936, as a service to farmers and municipalities the experimental farm supplied over 4536 kilograms of crested wheatgrass, 2722 kilograms of bromegrass, 3629 kilograms of sweetclover, 907 kilograms of corn, and 318 kilograms of alfalfa seed.

On the experimental farm, work continued with the plowless fallow, and strip cropping was practiced as a means of reducing soil erosion. Work was carried out with listers, which ridged the soil and thus helped to reduce wind erosion. Much of the equipment used in these studies was purchased with funds received from the PFRA allotment. Similar studies were carried out on the substations at Strasbourg and Weyburn.

Although these substations organized by the PFRA were a means of obtaining information on preventing soil erosion, an additional organization was needed to elicit the participation of farmers in soil-drifting control, reclamation work, and water control. In 1936 the agricultural improvement associations were started. These proved to be very popular, and by the end of 1938 there were 25 such associations in the Indian Head district alone, with a total membership of 3361 farmers. By 1939 the number of associations and members had doubled. Thus, the organizing and servicing of these agricultural improvement associations became a major part of the work at the experimental farm and necessitated the production of even greater quantities of crested wheatgrass, bromegrass, corn, alfalfa, and sweetclover for distribution to members. In 1938 alone, 200 meetings of associations were attended to discuss new cultural methods, crop rotations, cereal varieties, and grasshopper control measures.

The PFRA program demanded hard work, which was hampered by wind, grasshoppers, cutworms, wireworms, and drought. Strip cropping seemed to be the most successful practice for controlling wind erosion, but unfortunately this led to more damage from wheat stem sawfly and grasshoppers. In reclaimed areas, a major hazard to the new seedings was cattle. There was no fencing because of the high

PFRA and farm staff, 1937 (*left to right*, Lucy Fleming, Roe Foster, Betty Flavell, Ted McCurdy, Doris Pals, Bob Wilson).

costs, and farmers with livestock often considered new growth on abandoned land a welcome source of pasture.

Tribute must be paid to the staff who worked on these PFRA projects, many of whom remained at the Indian Head Experimental Farm and became long-service staff members. J.R. Foster joined the PFRA-group in 1937. Roe Foster was born in Myrtle, Ont., but moved to Saskatchewan as a boy. After graduating from the University of Saskatchewan in 1937, he joined the staff at the experimental farm and worked on PFRA-supported off-station reclamation work until 1941, when he enlisted in the Royal Canadian Air Force. After the war, he returned to Indian Head in the fall of 1945 and was immediately appointed officer in charge of the Regina substation. He remained in Regina, except for a brief spell in private business, until 1953, when he was appointed supertintendent at Indian Head. Ted McCurdy, a native of Moosomin and a graduate of the University of Saskatchewan, had started at Indian Head in 1933, after a brief period at the Swift Current Experimental Station, and remained until his retirement in 1972. Ernie McKenzie, from Belbeck, Sask., and also a graduate of the University of Saskatchewan, was an agricultural supervisor from 1936 until 1940. In 1938 Ed Molberg joined the staff. He was born in Midale, Sask., and graduated from the University of Minnesota. Mr. Molberg remained at Indian Head until 1947, when he was appointed to the Regina Substation from which he retired in 1974. Ernest Buglass who came in 1939, was born in England, immigrated to Traynor, Sask., and subsequently graduated from the University of Saskatchewan. Mr. Buglass joined the armed forces in 1940, returning to Indian Head in 1946, where he remained until his retirement in 1972.

Others who were active during the PFRA period were William Shevkenek; substation managers A. Coles, J.G. Hooper, A. Meredith, and J.W. Miller; and J. Fettes and G.L. Levee, active members of agricultural improvement associations.

After the war, the PFRA came under a separate administration with headquarters in Regina, so that the Indian Head Experimental Farm was no longer responsible for such programs.

CHAPTER 7

Illustration Stations, 1935 to 1959

The first illustration stations were established as early as 1915 and came into being as a result of recurring crop failures caused by droughts in Saskatchewan and Alberta. At first, the intention was to rent a portion of a farmer's land and develop crop rotations, using suitable seed and proper cultural methods, so that the attention of neighbors in the community would be drawn to this illustration station. In this way it was hoped that farmers would emulate the work being carried out there.

In 1935 drought and soil-drifting in the prairies assumed major proportions, and to help alleviate these problems the illustration stations in the plains areas were expanded into distinct experimental substations. The entire farm (up to 640 acres, or 260 hectares) was contracted to these substations, where strip farming, tree planting, water-holding projects, and forage-crop production were conducted.

In 1935, 184 illustration stations and 139 district experiment substations were operated across Canada by the Illustration Division of the Experimental Farms Service; the substations were operated under the *PFRA Act*. Although the experimental farm at Indian Head had provided seed stocks and services to the illustration stations in Saskatchewan since their inception, it was only in 1935 that the stations in the eastern part of the province, together with the PFRA substations, were transferred to the experimental farm administration to become a fully integrated off-station program.

After 1935 the program included crop testing, the study of crop rotations, and weed control; initially, livestock was maintained on all stations. Ted McCurdy was supervisor of the illustration station program from 1935 until 1946, when Ernest Buglass took over the position for a year. In 1947 Roy McIver was appointed supervisor of illustration stations, a position he held for many years. Mr. McIver came from Francis, Sask., and after graduating from the University of Saskatchewan in 1942 he had entered the armed forces and then became the agricultural representative for the Indian Head area for the Saskatchewan Department of Agriculture until his transfer in 1947.

At this time, there were six stations in eastern Saskatchewan, located at Avonlea, Calder, Canora, Pelly, Wawota, and Yorkton. From 1935 to 1946 the major effort was directed toward soil-drifting control, reclamation, and water development. In 1936, however, an extensive cereal-testing program was initiated, which included the growing of varieties of wheat, oats, barley, and flax. Although the station operators helped with the harvesting, most of the work was carried out by Ted McCurdy. Fertilizer tests were also conducted during this period. Also, as the use of combine harvesting increased, trash cover was preserved and used to control soil drifting.

Field meetings were also a major event on the stations. In 1938 the average attendance at each illustration station was over 100 participants, and at the stations, over 1000 visitors attending a field day was not uncommon.

By 1946 the operations at Pelly and Canora were phased out so that the Indian Head supervisor was now responsible for the four remaining illustration stations, as well as seven substations at Alameda, Arcola, Avonlea, Aylesbury, Lisieux, Radville, and Strasbourg.

From 1947 to 1956 the station at Wawota was phased out, but at that time there were two stations at Strasbourg and three more had been started at Fleming, Kelliher, and Viceroy. Over this decade, cattle, dairy, and poultry operations were reduced, the major emphasis being on crop production.

Much of the work on the illustration stations and substations was concerned with crop rotations and weed control. The postwar years saw the introduction of selective herbicides for the control of weeds in a variety of crops, so that cultural weed control methods gave way to chemical control. Fertilizer studies were also continued. In 1955, 27 varieties of wheat were under test for rust resistance, because Thatcher wheat suffered seriously from rust during

Harvesting turnips on an illustration station at Yorkton, 1935.

the early 1950s, and the data from the illustration stations were included in the annual compilation for the Advisory Council on Grain Crops from which variety recommendations were made.

Gradually, the illustration program was fully integrated with research being carried out at the Indian Head Experimental Farm. The full story of the illustration stations is long, and many operators cooperated in the programs and made outstanding contributions in their districts. These illustration stations were an important adjunct of the experimental farm program, despite criticism concerning the lack of experimental control and poor communication. However, they had served their day, and in 1959 the illustration stations were discontinued when a reorganization within the federal Department of Agriculture resulted in the formation of the Research Branch, which integrated the work formerly carried out by the Experimental Farms Service and the Science Service. Many of the illustration stations were closed down, and others were designated as experimental project farms where specific research projects on carefully selected topics were emphasized.

CHAPTER 8

World War II to 75th Anniversary, 1941 to 1962

Ted McCurdy speaking at a field husbandry convention, 1954.

With the outbreak of the Second World War in 1939, an economic recovery took place, and farming products were in great demand to feed a war-torn Europe. The price of grain rose, and in 1942 the crop yields in Saskatchewan were at an all-time high, with the price of land double what it had been in 1937. As a result of the new agricultural practices initiated in the province, soil drifting was a much less serious problem than it had been earlier.

The forties brought major changes in the operation of the experimental farm. Mechanization progressed, which spelled the end of horsepower. Old projects were discontinued and new ones started.

The studies on agronomy continued, with strong emphasis on cultural control of weeds, on rotations, and on soil-drifting control. The fertilizer studies were also maintained. Wild oats were becoming a problem weed, and 19 different rotational experiments were conducted to determine the best method for their control. Early tillage and delayed seeding practices were the most successful in reducing infestations of this weed. Basic studies were started to determine the viability of wild oat seeds buried in the soil.

The year 1946 was an important one, for this marked the first testing at Indian Head of the herbicide 2,4-D. As previously mentioned, herbicides were to transform weed-control practices, because they were capable of selectively killing weeds in various crops. Ted McCurdy was instrumental in the development of herbicide recommendations for use by farmers in the region. Much of the work with herbicides was associated with crop tolerance studies and the determination of rates that would kill the weeds without crop damage. As new chemicals were developed, they were tested and evaluated under prairie conditions.

The rapid increase in combine harvesting from 1941 to 1951 necessitated tillage procedures that allowed the retention of crop residue for soil-drifting control.

New fertilizers, recently made available, were tested and evaluated, and over a 12-year period it was demonstrated that increased yields could be produced, thus making the use of fertilizers economically possible.

Research carried out by the experimental farm and the illustration and project stations was used by various advisory councils as a basis for their recommendations to the farmers of southeastern Saskatchewan.

In the late forties a concentrated wheat-breeding program was carried out at Indian Head under the direction of Mr. Davidson. This work led to the licensing of the high-yielding Acadia, which by 1956 had become the most generally grown spring

wheat in eastern Canada. Work with other cereals and flax continued as before. With the demise of the horse, oats became a relatively minor crop, but testing was carried out to identify rust-resistant species.

Rapeseed was a crop first tried in 1943 and proved so successful, that by 1957 over 500 000 acres (202 350 hectares) in Saskatchewan were in rapeseed production. The breeding program under Ernest Buglass produced a variety, numbered IHS 19, that appeared to be suitable for prairie production. This was eventually licensed under the name Echo in 1964.

Until the early 1960s the experimental farm played a major part in the distribution of seed of new varieties, as it had since 1887. As more and more qualified seed growers began to provide seed for such purposes, the experimental farm gradually withdrew from this activity. In 1961 the cereal-breeding program was discontinued, though the farm was still cooperating with other stations in their testing programs.

Work on root crops was discontinued around 1950, as were studies on millet, when oats proved to be superior as hay. Pasture-improvement studies were also undertaken with varieties of alfalfa, bromegrass, and crested wheatgrass. The effects of fertilizer on grass production received attention. In 1951 a new nursery for forage plants was established, and that year 135 species and varieties were compared. This work is still in operation today.

Soil research was initiated at the experimental farm in 1955, to help understand and so alleviate soil salinity problems that were developing in southeastern Saskatchewan. By 1958 a small, modern laboratory was established to investigate the chemical and physical properties of soils. A survey of the severity of salinity in certain areas was completed, and the effects of salinity on crop yields were studied. Methods were compared for the reclamation of saline fields through the addition of amendments. In 1961 a new phase of soil research was started to study relationships between the soil and cereal and horticultural plants.

During the 1940s the testing of crab apple and crab apple crosses continued, though the number of species in the vegetable program was considerably reduced. By the mid 1950s horticultural studies concentrated on peppers, tomatoes, and summer crops. Starting in 1951 the experimental farm cooperated in national potato

Ernie Buglass with forage crops exhibit, 1962.

above
Mechanized forage harvesting, 1958.

below
Baling hay, 1954.

trials, with 30 varieties evaluated from 1951 to 1956 for plant and tuber type, disease resistance, storage, and cooking quality. This work proved to be so popular among potato growers that a special project farm was established at Lumsden in 1958 to investigate the effects of irrigation, fertilization, and cultural practices on potato production.

With the advent of reliable machinery, horses were no longer the main source of power on the experimental farm, and so after 1943 they were phased out; by 1956 only 16 horses remained. With no demand from farmers for stud services, most of the stallions were sold or transferred. Although some horses were used for plot work and other tasks, the last four Clydesdale horses were sold in early 1962.

The Shorthorn herd was managed for beef production and in 1946 the herd numbered 47 head. Performance testing of beef cattle, a cooperative project with the experimental farms at Brandon and Lacombe, started in 1949 and continued until 1953. A project was initiated in 1958 to study the effectiveness of selecting breeding stock on the basis of the weight of performance-tested animals at 12 months of age.

Work continued with swine, and in 1957 Yorkshire, which had been the main breed since 1925, was replaced with Lacombe, a new breed. A 4-year study revealed that for most economic factors, Lacombe was equal or superior to Yorkshire. Boars of the Lacombe breed were released to breeders in late 1958 and to breeding groups the following year. By 1960, 62 boars and 70 gilts from the Indian Head herd had been sold to new breeders. The year 1962 marked the end of the pig-breeding program at Indian Head, and the herd was dispersed.

The poultry program continued with Barred Plymouth Rock, but in 1950 a strain of this breed developed at the Harrow Experimental Station was transferred to Indian Head. Hens produced from this strain were compared at Indian Head, as well as at Scott and Harrow. Egg output was similar at all three places, suggesting that the strain would be satisfactory under different environmental conditions. In 1953, two strains of Single Comb White Leghorns were obtained. During the period ending in 1962, research was conducted exclusively on performance through selection, and to determine whether such gains were permanent or whether continuous selection was necessary to maintain the productivity of a strain.

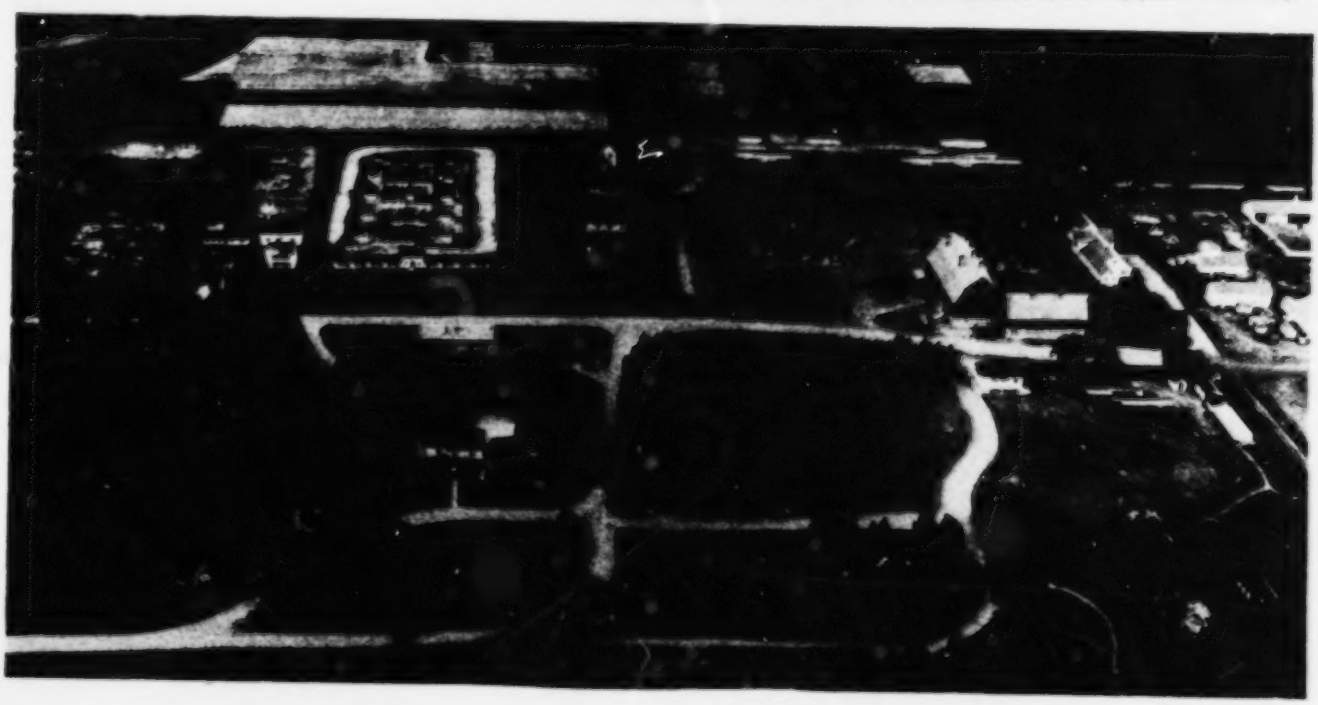
Farm staff members were still responsible for extension work, and during the early 1940s they provided exhibits at fairs in various parts of the province. Press releases by staff members in the late forties covered all major aspects of crop and livestock management, as well as weed control. The farm also played a significant role in making recommendations to farmers on a variety of topics through the cooperative agricultural extension program. Field days were still an important event. On 25 July 1962 a special field day was organized to celebrate the 75th anniversary of the Indian Head Experimental Farm. Over 2000 people attended to tour the displays and plots. As a tribute, L.A. Boileau of the Saskatchewan Wheat Pool noted that the experimental farm had given the farmers tomorrow's tools and knowledge to carry out the farm practices of today.

There were great changes in the farm facilities in the early fifties. A new office was built in 1952, a silo bunker was constructed in 1954, and a year later a new barn was completed, allowing the performance testing of 50 animals. Later, buildings were phased out or put to other uses. Thus in 1956 the icehouse and adjoining dairy were remodeled as public rest rooms to accommodate the many visitors to the farm; 2 years later, in accordance with government policy, the boardinghouse was closed down.

In 1954 the government purchased the Patterson farm to provide extra land for all the field studies. The Patterson farm had been used since 1926, when arrangements were made to lease it for 15 years. At the termination of the lease, it was agreed that the land was to be given to the government for experimental and investigational work. However, the arrangement was changed after Mrs. Patterson's death in 1927, and with the expiry of the original lease, the farm was retained for 5 more years on a new lease. The lease then

above
Lacombe gilts, 1962.

below
View of Indian Head Experimental Farm, 1962.



lapsed and no more work was carried out on the Patterson farm until it was purchased in 1954.

Some time during 1948 or 1949, the Regina Substation became independent of Indian Head and was directly responsible to Ottawa rather than to the superintendent of the Indian Head Experimental Farm.

During the war years, many of the staff members had enlisted in the armed services, and in December 1942, 23 staff members served in the forces. With the shortage of staff, some long-term employees were retained beyond the normal retirement age. John Horn, the farm foreman, who should have retired in 1942, remained until the end of 1946. G.B. Ledingham then filled the position until Stewart Purse was appointed in 1948.

W.H. Gibson retired as superintendent in early 1949, after service that stretched

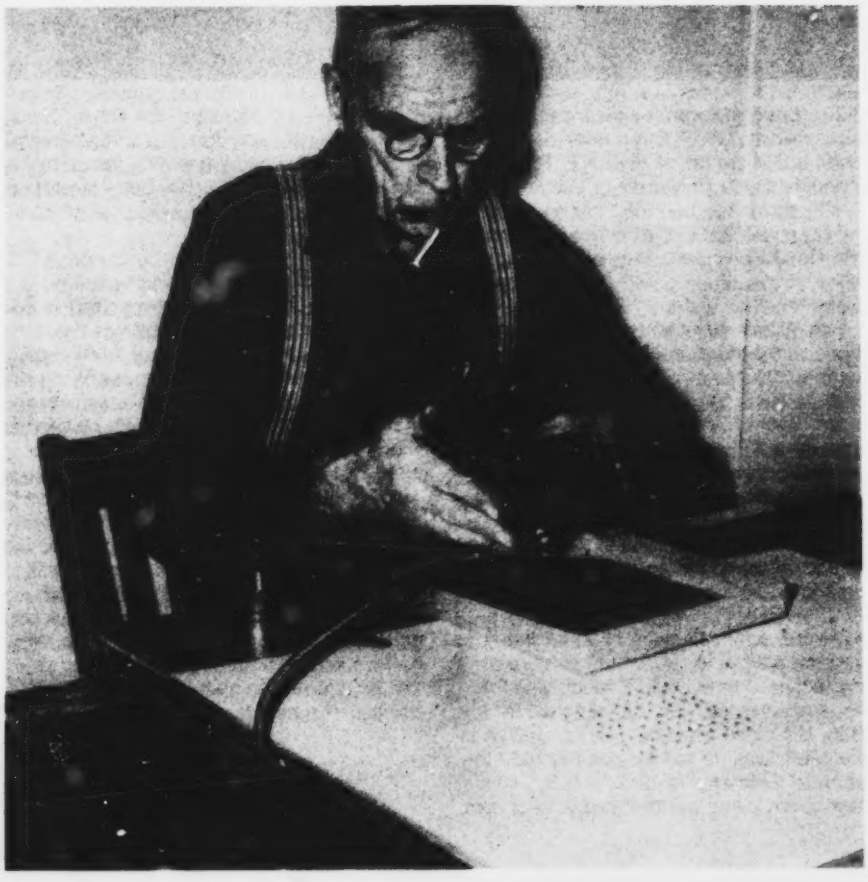
above
N.D. MacKenzie, superintendent, 1919–1924.

right
J.G. Davidson (*right*), superintendent, 1949–1953.

back to 1915, with a break from 1919 to 1924. Mr. Gibson's tenure extended through two world wars, the economic stringency of the twenties, and the heart-breaking conditions of the thirties. It was no mean achievement to guide the experimental farm through those periods. His bias was toward the livestock programs, with the Clydesdales his greatest pride. Mr. Gibson was a staunch supporter of the community and an active member in the Chamber of Commerce. He retired in Indian Head and remained there until his death in 1953.

J.G. Davidson succeeded W.H. Gibson as superintendent and held the position until his retirement in 1953. He then moved to British Columbia, where he died in 1978 at the age of 90.

The next superintendent to be appointed was Roe Foster, who at the time was superintendent of the Regina Substation, but who had worked at the Indian Head Experimental Farm during the PFRA era. Roe Foster remained as superintendent from 1953 until his retirement in 1972.



above left
J.R. Foster, superintendent, 1953–1972.

above right
Bill Cram, livestock specialist.

left
Jack Quinn preparing seed for cereal plots, 1962.

Stan Law in greenhouse, 1962.

The poultry program was under the supervision of W.W. Cram from 1941 to 1949, but in the fall of 1945 A.P. Piloski, a graduate of the University of Manitoba, was appointed to head the poultry section. Bill Cram, Ernest Buglass, Ted McCurdy, and Roy McIver were all very active during those years.

Bob Wilson remained an active member of the horticulture program until his retirement in 1945. W.H. Cram joined the program in 1946, but his stay was short, and a year later he moved to the Forest Tree Nursery at Indian Head, becoming its superintendent in 1958. In the spring of 1950 W.A. Russell, a graduate of the University of Saskatchewan, became horticulturist and remained until 1960, when he was appointed superintendent of the experimental farm at Fort Simpson.

Several scientists were hired for the soils program started in 1955, but few stayed any length of time. M.A. Zwarich was the first appointee in 1955, but resigned in 1956. His place was taken by H. Lueken in late 1957, until he too resigned in 1960 to return to Germany. In 1962, C.H.E. Werkhoven came but resigned a year later. E.D. Spratt, a graduate of the University of Saskatchewan, was appointed in May of 1961 and remained for several years, as did G.S. Emmond, a graduate of the University of Manitoba, who was appointed a year later.

Other staff members from this period include A.L.D. Martin, who was associated with the flax program until his transfer to the cereal-breeding laboratory in Winnipeg in 1956. Mr. Martin had taken over from H. McKenzie, who arrived in 1950 and whose stay was less than a year. R.I.H. McKenzie was in charge of cereal breeding from 1956 to 1960. The poultry program was also ably supported by J. Burnie, C. Good, and G. Ashmore during those years. Jack Quinn, a long-time member of the staff, was made head plotman for cereals in 1950; Stan Law, after serving a second time in the armed services, returned to his gardening position; and Mrs. Kirchner, who had worked as a stenographer during the 1920s, returned to manage the office, a position she held for the next 25 years.

CHAPTER 9

Approaching 100 Years, 1963 to the Present

Under the Department of Agriculture's reorganization in 1959 the Experimental Farms Service and the Science Service were combined to form the Research Branch. With the new organization, the work undertaken by the experimental farms and stations became more research oriented, with scientists from various disciplines brought together to solve agricultural problems. By the early 1960s the policies formulated by the executive of the newly formed Research Branch affected all experimental farms and stations.

Since 1963 the main activities carried out at the experimental farm have been in the area of agronomy, with many of the remaining programs phased out or consolidated at other stations. Thus, with the retirement of Bill Cram in 1964, the livestock program came to an end and the remaining cattle were moved to Brandon, where the cattle program was consolidated. In 1968 A.P. Piloski and members of the poultry program were transferred to Brandon, thus ending all livestock operations at the Indian Head Experimental Farm.

Cereal-variety testing and large-scale seed increase of new and potential varieties were continued. As a result of wheat surpluses during the late sixties and early seventies, an interest in the production of other crops developed. Studies were started in 1973 to find varieties of corn, buckwheat, mustard, field peas, and sunflowers best suited to prairie conditions.

The program on potato production using irrigation that was carried out at Lumsden was discontinued in 1971 when George Emmond moved to the Regina Research Station. His studies had also included the effects of fertilizers, barnyard manure, and crop rotations on tuber yields. Work on tomatoes continued, and a cooperative breeding project was carried out with the research station at Morden.

In agronomy, work was concentrated in the following areas: crop rotations; cost effectiveness of fertilizers, especially in continuous-cropping programs on cereals and flax; use of green manure and barnyard manure; tillage practices; comparison of weed control benefits using chemical fallow and summerfallow techniques; weed control; and effects of soils on cereal production. This last aspect was concluded when E.D. Spratt left in early 1966 for educational leave. On completion of his graduate program, he was transferred to Brandon.

R.N. McIver, superintendent, 1973–1978.

Work on forage crops continued, with emphasis placed on the importance of new varieties of sweetclover, alfalfa, and grasses. Until recently, many of the grasses were unnamed commercial strains. However, in the late sixties, forage breeders developed varieties and these were compared at the farm. Production of pure stocks of the new varieties also became an important part of the program.

The cooperative forage oat project was coordinated from Indian Head and was a means of developing a variety of oats with improved forage-yielding potential.

Over the last 25 years, the extension and service areas have remained at a high level, with staff conducting field days,

W.B. Towill, superintendent, 1978–1983.

actively participating in meetings, and assisting in the formulation of agricultural recommendations made by advisory services.

As the programs were reduced over the years, so was the staff. Roe Foster remained as superintendent until his retirement in 1972. He moved to Regina and died in the summer of 1977, a few weeks before his 70th birthday. Upon his retirement, the Indian Head Experimental Farm became a substation of the Regina Research Station.

Ernest Buglass took over as acting superintendent after Mr. Foster and continued with the forage and cereal studies until his retirement in 1972. Mr. Buglass remained in Indian Head until his death in 1985. In 1973, Roy McIver became superintendent combining these duties with a full agronomic program until his retirement in December 1978.

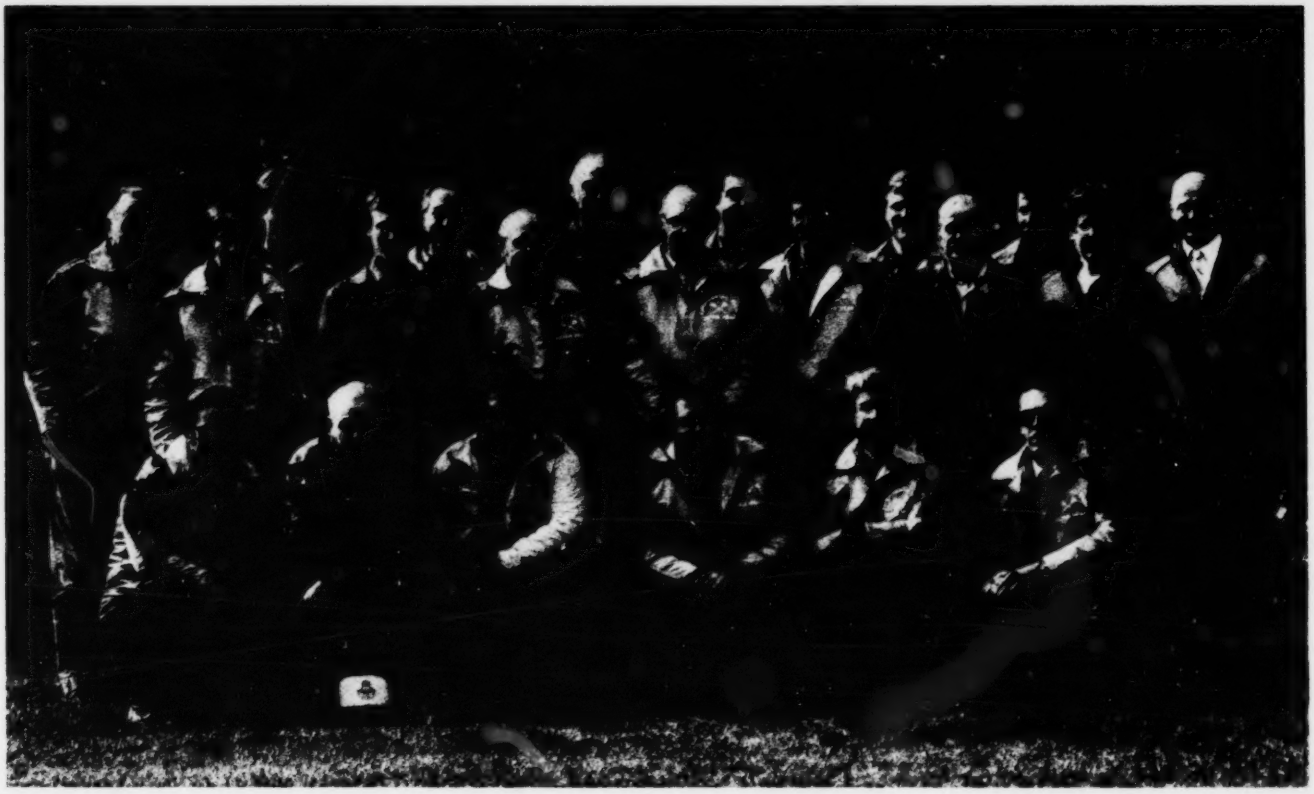
Roy McIver was succeeded by Bill Towill, a native of Moosomin and a graduate of the University of Saskatchewan. Mr. Towill had been on the staff of the experimental station at Scott, and before coming to Indian Head had been superintendent at the Thunder Bay Experimental Station. On his retirement in 1983, Murray Maw of the Regina Research Station became acting superintendent.

In 1975 Neal Holt was appointed to coordinate the specialty crops program. Born in the Bengough area of Saskatchewan and a graduate of the University of Saskatchewan, Dr. Holt remained at Indian Head until 1983, when he moved to the Swift Current Research Station.

Other retirements over this period included Mrs. Kirchner in 1968, who was succeeded in the office by Mrs. Clark until her retirement in 1970. The present office manager is Ann Robb. In 1972 Stewart Purse, the farm foreman, retired, his place being taken by the present incumbent, Walter Clark. Stan Law retired in 1965 after 39 years of government service. Mr. Law was also an active and long-term member of the Indian Head Horticultural Society and was made an honorary member in 1976. After Mr. Law's retirement, Dennis Pike became gardener.

Of the current staff at Indian Head who have provided technical help over the years, Walter Dorwart and Henry Reisdorf, have over 40 years' service; Charley Briant, Alan Cole, and Wilf Walter have spent over 30 years at the experimental farm; Walter Clark, Alec Gair, and Dennis Pike have provided service for over 20 years; and Briant Comstock, Lawrence Kattler, Steve Kopp, and Ann Robb have been at Indian Head for over 10 years. The relative newcomers, with less than 10 years of service, include Roger Geremia, Mike Miller, Brian Caldwell, who recently moved to the Regina Research Station, and Wayne Holzapfel, who left in 1984 to join the Indian Head Tree Nursery. The services provided by seasonal technicians—Kevin Kattler, Bev Pearce, Don Pearon, and Bill Robb—are also acknowledged.

Athough the farm at Indian Head is sorely depleted in staff, plans are being implemented to increase the effectiveness of the experimental farm. In 1984 Doug Derksen, a native of Ontario and a graduate of the Ontario Agricultural College, and in 1985 Guy Lafond, a native of Manitoba and a graduate of the University of Saskatchewan, were appointed to the position



Staff of the Indian Head Experimental Farm, 1983.

of agronomist, to take over existing studies and initiate new ones.

In 1983 the decision was made to move the seed operation from the Regina Research Station to Indian Head, and in 1984 the building of a new seed plant was started at the experimental farm. On its completion in the summer of 1985, Glenn Boughton, Bernard Bosgoed, and Brian Kessel moved from Regina to Indian Head. It is hoped that with the seed program, Indian Head will become Agriculture Canada's distribution center for newly developed and licensed cereal varieties. Work will also be carried out on the evaluation of cereals, oilseeds, forages, and pulse crops for adaptability to southeastern Saskatchewan.

Appendix

Superintendents and professional staff

Superintendents

A. MacKay	1888–1913
T.J. Harrison	1913–1915
W.H. Gibson	1915–1919
N.D. MacKenzie	1919–1924
W.H. Gibson	1924–1949
J.G. Davidson	1949–1953
J.R. Foster	1953–1972
R.N. McIver	1973–1978
W.B. Towill	1978–1983

Professional Staff

W.W. Thomson	1911–1912
R. Whiteman	1912–1913
K. MacBean	1913–1916
C.B. Nourse	1917–1924
G.D. Matthews	1923–1928
J.C. Walker	1924–1929
J.G. Davidson	1928–1953
W.W. Cram	1929–1964
B.H. Wilson	1930–1931
R.M. Wilson	1931–1945
E.V. McCurdy	1933–1972
G. Hodgson	1935–1937
E.W. McKenzie	1936–1940
J.R. Foster	1937–1941
E.S. Molberg	1938–1947
E.M. Campbell	1938–1939
E. Buglass	1939–1972
W. Shevkenek	1941–1942
W.H. Cram	1946–1947
R.N. McIver	1947–1978
A.P. Piloski	1949–1968
H. McKenzie	1950–1951
W.A. Russell	1950–1960
A.L.D. Martin	1952–1956
M.A. Zwarich	1955–1956
R.I.H. McKenzie	1956–1960
H. Lueken	1957–1960
E.D. Spratt	1961–1968
C.H.E. Werkhoven	1962–1963
G.S. Emmond	1962–1971
N.W. Holt	1975–1983
D. Derksen	1984–
G. Lafond	1985–